

SIGNS AND SEASONS

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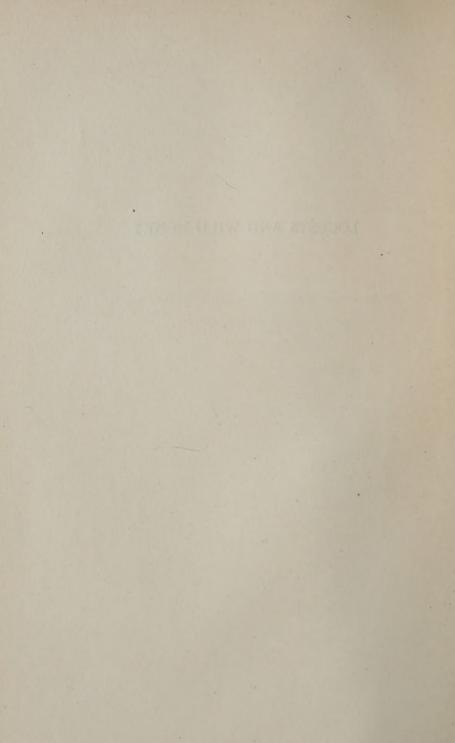
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PREFACE

I AM aware that for the most part the title of my book is an allegory rather than an actual description; but readers who have followed me heretofore, I trust, will not be puzzled or misled in the present case by any want of literalness in the matter of the title. If the name carries with it a suggestion of the wild and delectable in nature, of the free and ungarnered harvests which the wilderness everywhere affords to the observing eye and ear, it will prove sufficiently explicit for my purpose.

Esopus-on-Hudson, N. Y.

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THE PASTORAL BEES

THE honey-bee goes forth from the hive in spring like the dove from Noah's ark, and it is not till after many days that she brings back the olive leaf, which in this case is a pellet of golden pollen upon each hip, usually obtained from the alder or the swamp willow. In a country where maple sugar is made the bees get their first taste of sweet from the sap as it flows from the spiles, or as it dries and is condensed upon the sides of the buckets. They will sometimes, in their eagerness, come about the boiling-place and be overwhelmed by the steam and the smoke. But bees appear to be more eager for bread in the spring than for honey: their supply of this article, perhaps, does not keep as well as their stores of the latter; hence fresh bread, in the shape of new pollen, is diligently sought for. My bees get their first supplies from the catkins of the willows. How quickly they find them out! If but one catkin opens anywhere within range, a bee is on hand that very hour to rifle it, and it is a most pleasing experience

to stand near the hive some mild April day and see them come pouring in with their little baskets packed with this first fruitage of the spring. They will have new bread now; they have been to mill in good earnest; see their dusty coats, and the golden grist they bring home with them.

When a bee brings pollen into the hive he advances to the cell in which it is to be deposited and kicks it off, as one might his overalls or rubber boots, making one foot help the other; then he walks off without ever looking behind him; another bee, one of the indoor hands, comes along and rams it down with his head and packs it into the cell, as the dairy-maid packs butter into a firkin with a ladle.

The first spring wild-flowers, whose shy faces among the dry leaves and rocks are so welcome, are rarely frequented by the bee. The anemone, the hepatica, the bloodroot, the arbutus, the numerous violets, the spring beauty, the corydalis, etc., woo all lovers of nature, but seldom woo the honey-loving bee. The arbutus, lying low and keeping green all winter, attains to perfume and honey, but only once have I seen it frequented by bees.

The first honey is perhaps obtained from the flowers of the red maple and the golden willow. The latter sends forth a wild, delicious perfume. The sugar maple blooms a little later, and from its silken tassels a rich nectar is gathered. My bees will not label these different varieties for me, as I really wish

they would. Honey from the maple, a tree so clean and wholesome, and full of such virtues every way, would be something to put one's tongue to. Or that from the blossoms of the apple, the peach, the cherry, the quince, the currant,—one would like a card of each of these varieties to note their peculiar qualities. The apple-blossom is very important to the bees. A single swarm has been known to gain twenty pounds in weight during its continuance. Bees love the ripened fruit, too, and in August and September will suck themselves tipsy upon varieties such as the sops-of-wine.

The interval between the blooming of the fruittrees and that of the clover and the raspberry is bridged over in many localities by the honey locust. What a delightful summer murmur these trees send forth at this season! I know nothing about the quality of the honey, but it ought to keep well. But when the red raspberry blooms, the fountains of plenty are unsealed indeed; what a commotion about the hives then, especially in localities where it is extensively cultivated, as in places along the Hudson! The delicate white clover, which begins to bloom about the same time, is neglected; even honey itself is passed by for this modest, colorless, all but odorless flower. A field of these berries in June sends forth a continuous murmur like that of an enormous hive. The honey is not so white as that obtained from clover, but it is easier gathered; it is in shallow

cups, while that of the clover is in deep tubes. The bees are up and at it before sunrise, and it takes a brisk shower to drive them in. But the clover blooms later and blooms everywhere, and is the staple source of supply of the finest quality of honey. The red clover yields up its stores only to the longer proboscis of the bumblebee, else the bee pasturage of our agricultural districts would be unequaled. I do not know from what the famous honey of Chamouni in the Alps is made, but it can hardly surpass our best products. The snow-white honey of Anatolia in Asiatic Turkey, which is regularly sent to Constantinople for the use of the grand seignior and the ladies of his seraglio, is obtained from the cotton plant, which makes me think that the white clover does not flourish there. The white clover is indigenous with us; its seeds seem latent in the ground, and the application of certain stimulants to the soil, such as wood ashes, causes them to germinate and spring up.

The rose, with all its beauty and perfume, yields no honey to the bee, unless the wild species be sought by the bumblebee.

Among the humbler plants let me not forget the dandelion that so early dots the sunny slopes, and upon which the bee languidly grazes, wallowing to his knees in the golden but not over-succulent pasturage. From the blooming rye and wheat the bee gathers pollen, also from the obscure blossoms of

indian corn. Among weeds, catnip is the great favorite. It lasts nearly the whole season and yields richly. It could no doubt be profitably cultivated in some localities, and catnip honey would be a novelty in the market. It would probably partake of the aromatic properties of the plant from which it was derived.

Among your stores of honey gathered before midsummer you may chance upon a card, or mayhap only a square inch or two of comb, in which the liquid is as transparent as water, of a delicious quality, with a slight flavor of mint. This is the product of the linden or basswood, of all the trees in our forest the one most beloved by the bees. Melissa, the goddess of honey, has placed her seal upon this tree. The wild swarms in the woods frequently reap a choice harvest from it. I have seen a mountain-side thickly studded with it, its straight, tall, smooth, light gray shaft carrying its deep green crown far aloft, like the tulip-tree or the maple.

In some of the Northwestern States there are large forests of it, and the amount of honey reported stored by strong swarms in this section during the time the tree is in bloom is quite incredible. As a shade and ornamental tree the linden is fully equal to the maple, and, if it were as extensively planted and cared for, our supplies of virgin honey would be greatly increased. The famous honey of Lithuania in Russia is the product of the linden.

It is a homely old stanza current among bee folk that

"A swarm of bees in May
Is worth a load of hay;
A swarm of bees in June
Is worth a silver spoon;
But a swarm in July
Is not worth a fly."

A swarm in May is indeed a treasure; it is, like an April baby, sure to thrive, and will very likely itself send out a swarm a month or two later: but a swarm in July is not to be despised; it will store no clover or linden honey for the "grand seignior and the ladies of his seraglio," but plenty of the rank and wholesome poor man's nectar, the sun-tanned product of the plebeian buckwheat. Buckwheat honey is the black sheep in this white flock, but there is spirit and character in it. It lays hold of the taste in no equivocal manner, especially when at a winter breakfast it meets its fellow, the russet buckwheat cake. Bread with honey to cover it from the same stalk is double good fortune. It is not black, either, but nut-brown, and belongs to the same class of goods as Herrick's

"Nut-brown mirth and russet wit."

How the bees love it, and they bring the delicious odor of the blooming plant to the hive with them, so

that in the moist warm twilight the apiary is redolent with the perfume of buckwheat.

Yet evidently it is not the perfume of any flower that attracts the bees; they pay no attention to the sweet-scented lilac, or to heliotrope, but work upon sumach, silkweed, and the hateful snapdragon. In September they are hard pressed, and do well if they pick up enough sweet to pay the running expenses of their establishment. The purple asters and the goldenrod are about all that remain to them.

Bees will go three or four miles in quest of honey, but it is a great advantage to move the hive near the good pasturage, as has been the custom from the earliest times in the Old World. Some enterprising person, taking a hint perhaps from the ancient Egyptians, who had floating apiaries on the Nile, has tried the experiment of floating several hundred colonies north on the Mississippi, starting from New Orleans and following the opening season up, thus realizing a sort of perpetual May or June, the chief attraction being the blossoms of the river willow, which yield honey of rare excellence. Some of the bees were no doubt left behind, but the amount of virgin honey secured must have been very great. In September they should have begun the return trip, following the retreating summer south.

It is the making of wax that costs with the bee. As with the poet, the form, the receptacle, gives him more trouble than the sweet that fills it, though, to

be sure, there is always more or less empty comb in both cases. The honey he can have for the gathering, but the wax he must make himself, - must evolve from his own inner consciousness. When wax is to be made, the wax-makers fill themselves with honey and retire into their chamber for private meditation; it is like some solemn religious rite: they take hold of hands, or hook themselves together in long lines that hang in festoons from the top of the hive, and wait for the miracle to transpire. After about twenty-four hours their patience is rewarded, the honey is turned into wax, minute scales of which are secreted from between the rings of the abdomen of each bee; this is taken off and from it the comb is built up. It is calculated that about twenty-five pounds of honey are used in elaborating one pound of comb, to say nothing of the time that is lost. Hence the importance, in an economical point of view, of a recent device by which the honey is extracted and the comb returned intact to the becs. But honey without the comb is the perfume without the rose, —it is sweet merely, and soon degenerates into candy. Half the delectableness is in breaking down these frail and exquisite walls yourself, and tasting the nectar before it has lost its freshness by contact with the air. Then the comb is a sort of shield or foil that prevents the tongue from being overwhelmed by the first shock of the sweet.

The drones have the least enviable time of it.

Their foothold in the hive is very precarious. They look like the giants, the lords of the swarm, but they are really the tools. Their loud, threatening hum has no sting to back it up, and their size and noise make them only the more conspicuous marks for the birds. They are all candidates for the favors of the queen, a fatal felicity that is vouchsafed to but one. Fatal, I say, for it is a singular fact in the history of bees that the fecundation of the queen costs the male his life. Yet day after day the drones go forth, threading the mazes of the air in hopes of meeting her whom to meet is death. The queen only leaves the hive once, except when she leads away the swarm, and as she makes no appointment with the male, but wanders here and there, drones enough are provided to meet all the contingencies of the case.

One advantage, at least, results from this system of things: there is no incontinence among the males in this republic!

Toward the close of the season, say in July or August, the fiat goes forth that the drones must die; there is no further use for them. Then the poor creatures, how they are huddled and hustled about, trying to hide in corners and byways! There is no loud, defiant humming now, but abject fear seizes them. They cower like hunted criminals. I have seen a dozen or more of them wedge themselves into a small space between the glass and the comb, where

the bees could not get hold of them, or where they seemed to be overlooked in the general slaughter. They will also crawl outside and hide under the edges of the hive. But sooner or later they are all killed or kicked out. The drone makes no resistance, except to pull back and try to get away; but (putting yourself in his place) with one bee a-hold of your collar or the hair of your head, and another a-hold of each arm or leg, and still another feeling for your waistbands with his sting, the odds are greatly against you.

Is is a singular fact, also, that the queen is made, not born. If the entire population of Spain or Great Britain were the offspring of one mother, it might be found necessary to hit upon some device by which a royal baby could be manufactured out of an ordinary one, or else give up the fashion of royalty. All the bees in the hive have a common parentage, and the queen and the worker are the same in the egg and in the chick; the patent of royalty is in the cell and in the food; the cell being much larger, and the food a peculiar stimulating kind of jelly. In certain contingencies, such as the loss of the queen with no eggs in the royal cells, the worlers take the larva of an ordinary bee, enlarge the cell by taking in the two adjoining ones, and nurse it and stuff it and coddle it, till at the end of sixteen days it comes out a queen. But ordinarily, in the natural course of events, the young queen is

kept a prisoner in her cell till the old queen has left with the swarm. Later on, the unhatched queen is guarded against the reigning queen, who only wants an opportunity to murder every royal scion in the hive. At this time both the queens, the one a prisoner and the other at large, pipe defiance at each other, a shrill, fine, trumpet-like note that any ear will at once recognize. This challenge, not being allowed to be accepted by either party, is followed, in a day or two, by the abdication of the reigning queen; she leads out the swarm, and her successor is liberated by her keepers, who, in her time, abdicates in favor of the next younger. When the bees have decided that no more swarms can issue, the eigning queen is allowed to use her stiletto upon are unhatched sisters. Cases have been known where two queens issued at the same time, when a mortal combat ensued, encouraged by the workers, who formed a ring about them, but showed no preference, and recognized the victor as the lawful sovereign. For these and many other curious facts we are indebted to the blind Huber.

It is worthy of note that the position of the queen cells is always vertical, while that of the drones and workers is horizontal; majesty stands on its head, which fact may be a part of the secret.

The notion has always very generally prevailed that the queen of the bees is an absolute ruler, and issues her royal orders to willing subjects. Hence

Napoleon the First sprinkled the symbolic bees over the imperial mantle that bore the arms of his dynasty; and in the country of the Pharaohs the bee was used as the emblem of a people sweetly submissive to the orders of its king. But the fact is, a swarm of bees is an absolute democracy, and kings and despots can find no warrant in their example. The power and authority are entirely vested in the great mass, the workers. They furnish all the brains and foresight of the colony, and administer its affairs. Their word is law, and both king and queen must obey. They regulate the swarming, and give the signal for the swarm to issue from the hive; they select and make ready the tree in the woods and conduct the queen to it.

The peculiar office and sacredness of the queen consists in the fact that she is the mother of the swarm, and the bees love and cherish her as a mother and not as a sovereign. She is the sole female bee in the hive, and the swarm clings to her because she is their life. Deprived of their queen, and of all brood from which to rear one, the swarm loses all heart and soon dies, though there be an abundance of honey in the hive.

The common bees will never use their sting upon the queen; if she is to be disposed of, they starve her to death; and the queen herself will sting nothing but royalty, — nothing but a rival queen.

The queen, I say, is the mother bee; it is undoubtedly complimenting her to call her a queen and

invest her with regal authority, yet she is a superb creature, and looks every inch a queen. It is an event to distinguish her amid the mass of bees when the swarm alights; it awakens a thrill. Before you have seen a queen, you wonder if this or that bee, which seems a little larger than its fellows, is not she, but when you once really set eyes upon her you do not doubt for a moment. You know that is the queen. That long, elegant, shining, feminine-looking creature can be none less than royalty. How beautifully her body tapers, how distinguished she looks, how deliberate her movements! The bees do not fall down before her, but caress her and touch her person. The drones, or males, are large bees, too, but coarse, blunt, broad-shouldered, masculinelooking. There is but one fact or incident in the life of the queen that looks imperial and authoritative: Huber relates that when the old queen is restrained in her movements by the workers, and prevented from destroying the young queens in their cells, she assumes a peculiar attitude and utters a note that strikes every bee motionless and makes every head bow; while this sound lasts, not a bee stirs, but all look abashed and humbled: yet whether the emotion is one of fear, or reverence, or of sympathy with the distress of the queen mother, is hard to determine. The moment it ceases and she advances again toward the royal cells, the bees bite and pull and insult her as before.

I always feel that I have missed some good fortune if I am away from home when my bees swarm. What a delightful summer sound it is! how they come pouring out of the hive, twenty or thirty thousand bees, each striving to get out first! It is as when the dam gives way and lets the waters loose; it is a flood of bees which breaks upward into the air, and becomes a maze of whirling black lines to the eye, and a soft chorus of myriad musical sounds to the ear. This way and that way they drift, now contracting, now expanding, rising, sinking, growing thick about some branch or bush, then dispersing and massing at some other point, till finally they begin to alight in earnest, when in a few moments the whole swarm is collected upon the branch, forming a bunch perhaps as large as a two-gallon measure. Here they will hang from one to three or four hours or until a suitable tree in the woods is looked up, when, if they have not been offered a hive in the mean time, they are up and off. In hiving them, if any accident happens to the queen the enterprise miscarries at once. One day I shook a swarm from a small pear-tree into a tin pan, set the pan down on a shawl spread beneath the tree, and put the hive over it. The bees presently all crawled up into it, and all seemed to go well for ten or fifteen minutes, when I observed that something was wrong; the bees began to buzz excitedly and to rush about in a bewildered manner, then they took to the wing

and all returned to the parent stock. On lifting up the pan, I found beneath it the queen with three or four other bees. She had been one of the first to fall, had missed the pan in her descent, and I had set it upon her. I conveyed her tenderly back to the hive, but either the accident terminated fatally with her, or else the young queen had been liberated in the interim, and one of them had fallen in combat, for it was ten days before the swarm issued a second time.

No one, to my knowledge, has ever seen the bees house-hunting in the woods. Yet there can be no doubt that they look up new quarters either before or on the day the swarm issues. For all bees are wild bees and incapable of domestication; that is, the instinct to go back to nature and take up again their wild abodes in the trees is never eradicated. Years upon years of life in the apiary seem to have no appreciable effect towards their final, permanent domestication. That every new swarm contemplates migrating to the woods, seems confirmed by the fact that they will only come out when the weather is favorable to such an enterprise, and that a passing cloud, or a sudden wind, after the bees are in the air, will usually drive them back into the parent hive. Or an attack upon them with sand or gravel, or loose earth or water, will quickly cause them to change their plans. I would not even say but that, when the bees are going off, the apparently absurd

practice, now entirely discredited by regular bee keepers but still resorted to by unscientific folk, of beating upon tin pans, blowing horns, and creating an uproar generally, might not be without good results. Certainly not by drowning the "orders" of the queen, but by impressing the bees, as with some unusual commotion in nature. Bees are easily alarmed and disconcerted, and I have known runaway swarms to be brought down by a farmer plowing in the field who showered them with handfuls of loose soil.

I love to see a swarm go off — if it is not mine, and, if mine must go, I want to be on hand to see the fun. It is a return to first principles again by a very direct route. The past season I witnessed two such escapes. One swarm had come out the day before, and, without alighting, had returned to the parent hive, - some hitch in the plan, perhaps, or may be the queen had found her wings too weak. The next day they came out again and were hived. But something offended them, or else the tree in the woods — perhaps some royal old maple or birch, holding its head high above all others, with snug, spacious, irregular chambers and galleries - had too many attractions; for they were presently discovered filling the air over the garden, and whirling excitedly around. Gradually they began to drift over the street; a moment more, and they had become separated from the other bees, and, drawing together in

a more compact mass or cloud, away they went, a humming, flying vortex of bees, the queen in the centre, and the swarm revolving around her as a pivot,—over meadows, across creeks and swamps, straight for the heart of the mountain, about a mile distant,—slow at first, so that the youth who gave chase kept up with them, but increasing their speed till only a foxhound could have kept them in sight. I saw their pursuer laboring up the side of the mountain; saw his white shirtsleeves gleam as he entered the woods; but he returned a few hours afterward without any clue as to the particular tree in which they had taken refuge out of the ten thousand that covered the side of the mountain.

The other swarm came out about one o'clock of a hot July day, and at once showed symptoms that alarmed the keeper, who, however, threw neither dirt nor water. The house was situated on a steep side-hill. Behind it the ground rose, for a hundred rods or so, at an angle of nearly forty-five degrees, and the prospect of having to chase them up this hill, if chase them we should, promised a good trial of wind at least; for it soon became evident that their course lay in this direction. Determined to have a hand, or rather a foot, in the chase, I threw off my coat and hurried on, before the swarm was yet fairly organized and under way. The route soon led me into a field of standing rye, every spear of which held its head above my own. Plunging reck-

lessly forward, my course marked to those watching from below by the agitated and wriggling grain, I emerged from the miniature forest just in time to see the runaways disappearing over the top of the hill, some fifty rods in advance of me. Lining them as well as I could, I soon reached the hilltop, my breath utterly gone and the perspiration streaming from every pore of my skin. On the other side the country opened deep and wide. A large valley swept around to the north, heavily wooded at its head and on its sides. It became evident at once that the bees had made good their escape, and that whether they had stopped on one side of the valley or the other, or had indeed cleared the opposite mountain and gone into some unknown forest beyond, was entirely problematical. I turned back, therefore, thinking of the honey-laden tree that some of these forests would hold before the falling of the leaf.

I heard of a youth in the neighborhood more lucky than myself on a like occasion. It seems that he had got well in advance of the swarm, whose route lay over a hill, as in my case, and as he neared the summit, hat in hand, the bees had just come up and were all about him. Presently he noticed them hovering about his straw hat, and alighting on his arm; and in almost as brief a time as it takes to relate it, the whole swarm had followed the queen into his hat. Being near a stone wall, he coolly deposited his prize upon it, quickly disengaged

himself from the accommodating bees, and returned for a hive. The explanation of this singular circumstance no doubt is, that the queen, unused to such long and heavy flights, was obliged to alight from very exhaustion. It is not very unusual for swarms to be thus found in remote fields, collected upon a bush or branch of a tree.

When a swarm migrates to the woods in this manner, the individual bees, as I have intimated, do not move in right lines or straight forward, like a flock of birds, but round and round, like chaff in a whirlwind. Unitedly they form a humming, revolving, nebulous mass, ten or fifteen feet across, which keeps just high enough to clear all obstacles, except in crossing deep valleys, when, of course, it may be very high. The swarm seems to be guided by a line of couriers, which may be seen (at least at the outset) constantly going and coming. As they take a direct course, there is always some chance of following them to the tree, unless they go a long distance, and some obstruction, like a wood or a swamp or a high hill, intervenes, - enough chance, at any rate, to stimulate the lookers-on to give vigorous chase as long as their wind holds out. If the bees are successfully followed to their retreat, two plans are feasible, - either to fell the tree at once, and seek to hive them, perhaps bring them home in the section of the tree that contains the cavity; or to leave the tree till fall, then invite your neighbors and

go and cut it, and see the ground flow with honey. The former course is more business-like; but the latter is the one usually recommended by one's friends and neighbors.

Perhaps nearly one third of all the runaway swarms leave when no one is about, and hence are unseen and unheard, save, perchance, by some distant laborers in the field, or by some youth plowing on the side of the mountain, who hears an unusual humming noise, and sees the swarm dimly whirling by overhead, and, maybe, gives chase; or he may simply catch the sound, when he pauses, looks quickly around, but sees nothing. When he comes in at night he tells how he heard or saw a swarm of bees go over; and perhaps from beneath one of the hives in the garden a black mass of bees has disappeared during the day.

They are not partial as to the kind of tree,—pine, hemlock, elm, birch, maple, hickory,—any tree with a good cavity high up or low down. A swarm of mine ran away from the new patent hive I gave them, and took up their quarters in the hollow trunk of an old apple-tree across an adjoining field. The entrance was a mouse-hole near the ground.

Another swarm in the neighborhood deserted their keeper, and went into the cornice of an outhouse that stood amid evergreens in the rear of a large mansion. But there is no accounting for the

taste of bees, as Samson found when he discovered the swarm in the carcass, or more probably the skeleton, of the lion he had slain.

In any given locality, especially in the more wooded and mountainous districts, the number of swarms that thus assert their independence forms quite a large per cent. In the Northern States these swarms very often perish before spring; but in such a country as Florida they seem to multiply, till bee-trees are very common. In the West, also, wild honey is often gathered in large quantities. I noticed, not long since, that some wood-choppers on the west slope of the Coast Range felled a tree that had several pailfuls in it.

One night on the Potomac a party of us unwittingly made our camp near the foot of a bee-tree, which next day the winds of heaven blew down, for our special delectation, at least so we read the sign. Another time, while sitting by a waterfall in the leafless April woods, I discovered a swarm in the top of a large hickory. I had the season before remarked the tree as a likely place for bees, but the screen of leaves concealed them from me. This time my former presentiment occurred to me, and, looking sharply, sure enough there were the bees, going out and in a large, irregular opening. In June a violent tempest of wind and rain demolished the tree, and the honey was all lost in the creek into which it fell. I happened along that way two or three

days after the tornado, when I saw a remnant of the swarm, those, doubtless, that escaped the flood and those that were away when the disaster came, hanging in a small black mass to a branch high up near where their home used to be. They looked forlorn enough. If the queen was saved, the remnant probably sought another tree; otherwise the bees soon died.

I have seen bees desert their hive in the spring when it was infested with worms, or when the honey was exhausted; at such times the swarm seems to wander aimlessly, alighting here and there, and perhaps in the end uniting with some other colony. In case of such union, it would be curious to know if negotiations were first opened between the parties, and if the houseless bees are admitted at once to all the rights and franchises of their benefactors. It would be very like the bees to have some preliminary plan and understanding about the matter on both sides.

Bees will accommodate themselves to almost any quarters, yet no hive seems to please them so well as a section of a hollow tree, — "gums," as they are called in the South and West where the sweet gum grows. In some European countries the hive is always made from the trunk of a tree, a suitable cavity being formed by boring. The old-fashioned straw hive is picturesque, and a great favorite with the bees also.

The life of a swarm of bees is like an active and hazardous campaign of an army; the ranks are being continually depleted, and continually recruited. What adventures they have by flood and field, and what hairbreadth escapes! A strong swarm during the honey season loses, on an average, about four or five thousand a month, or one hundred and fifty a day. They are overwhelmed by wind and rain. caught by spiders, benumbed by cold, crushed by cattle, drowned in rivers and ponds, and in many nameless ways cut off or disabled. In the spring the principal mortality is from the cold. As the sun declines they get chilled before they can reach home. Many fall down outside the hive, unable to get in with their burden. One may see them come utterly spent and drop hopelessly into the grass in front of their very doors. Before they can rest the cold has stiffened them. I go out in April and May and pick them up by the handfuls, their baskets loaded with pollen, and warm them in the sun or in the house, or by the simple warmth of my hand, until they can crawl into the hive. Heat is their life, and an apparently lifeless bee may be revived by warming him. I have also picked them up while rowing on the river and seen them safely to shore. It is amusing to see them come hurrying home when there is a thunder-storm approaching. They come piling in till the rain is upon them. Those that are overtaken by the storm doubtless weather it as best they can in

the sheltering trees or grass. It is not probable that a bee ever gets lost by wandering into strange and unknown parts. With their myriad eyes they see everything; and then their sense of locality is very acute, is, indeed, one of their ruling traits. When a bee marks the place of his hive, or of a bit of good pasturage in the fields or swamps, or of the beehunter's box of honey on the hills or in the woods, he returns to it as unerringly as fate.

Honey was a much more important article of food with the ancients than it is with us. As they appear to have been unacquainted with sugar, honey, no doubt, stood them instead. It is too rank and pungent for the modern taste; it soon clovs upon the palate. It demands the appetite of youth, and the strong, robust digestion of people who live much in the open air. It is a more wholesome food than sugar, and modern confectionery is poison beside it. Besides grape sugar, honey contains manna, mucilage, pollen, acid, and other vegetable odoriferous substances and juices. It is a sugar with a kind of wild natural bread added. The manna of itself is both food and medicine, and the pungent vegetable extracts have rare virtues. Honey promotes the excretions, and dissolves the glutinous and starchy impedimenta of the system.

Hence it is not without reason that with the ancients a land flowing with milk and honey should mean a land abounding in all good things; and the

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queen in the nursery rhyme, who lingered in the kitchen to eat "bread and honey" while the "king was in the parlor counting out his money," was doing a very sensible thing. Epaminondas is said to have rarely eaten anything but bread and honey. The Emperor Augustus one day inquired of a centenarian how he had kept his vigor of mind and body so long; to which the veteran replied that it was by "oil without and honey within." Cicero, in his "Old Age," classes honey with meat and milk and cheese as among the staple articles with which a well-kept farmhouse will be supplied.

Italy and Greece, in fact all the Mediterranean countries, appear to have been famous lands for honey. Mount Hymettus, Mount Hybla, and Mount Ida produced what may be called the classic honey of antiquity, an article doubtless in no wise superior to our best products. Leigh Hunt's "Jar of Honey" is mainly distilled from Sicilian history and literature, Theocritus furnishing the best yield. Sicily has always been rich in bees. Swinburne (the traveler of a hundred years ago) says the woods on this island abounded in wild honey, and that the people also had many hives near their houses. The idyls of Theocritus are native to the island in this respect, and abound in bees — "flat-nosed bees," as he calls them in the Seventh Idyl - and comparisons in which comb-honey is the standard of the most delectable of this world's goods. His goatherds can think of no

greater bliss than that the mouth be filled with honeycombs, or to be inclosed in a chest like Daphnis and fed on the combs of bees; and among the delectables with which Arsinoë cherishes Adonis are "honeycakes," and other tidbits made of "sweet honey." In the country of Theocritus this custom is said still to prevail: when a couple are married, the attendants place honey in their mouths, by which they would symbolize the hope that their love may be as sweet to their souls as honey to the palate.

It was fabled that Homer was suckled by a priestess whose breasts distilled honey; and that once, when Pindar lay asleep, the bees dropped honey upon his lips. In the Old Testament the food of the promised Immanuel was to be butter and honey (there is much doubt about the butter in the original), that he might know good from evil; and Jonathan's eves were enlightened by partaking of some wood or wild honey: "See, I pray you, how mine eyes have been enlightened, because I tasted a little of this honey." So far as this part of his diet was concerned, therefore, John the Baptist, during his sojourn in the wilderness, his divinity-school days in the mountains and plains of Judea, fared extremely well. About the other part, the locusts, or, not to put too fine a point on it, the grasshoppers, as much cannot be said, though they were among the creeping and leaping things the children of Israel were permitted to eat. They were probably not eaten raw, but roasted

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in that most primitive of ovens, a hole in the ground made hot by building a fire in it. The locusts and honey may have been served together, as the Bedas of Cevlon are said to season their meat with honey. At any rate, as the locust is often a great plague in Palestine, the prophet in eating them found his account in the general weal, and in the profit of the pastoral bees; the fewer locusts, the more flowers. Owing to its numerous wild-flowers, and flowering shrubs, Palestine has always been a famous country for bees. They deposit their honey in hollow trees, as our bees do when they escape from the hive, and in holes in the rocks, as ours do not. In a tropical or semi-tropical climate, bees are quite apt to take refuge in the rocks; but where ice and snow prevail, as with us, they are much safer high up in the trunk of a forest tree.

The best honey is the product of the milder parts of the temperate zone. There are too many rank and poisonous plants in the tropics. Honey from certain districts of Turkey produces headache and vomiting, and that from Brazil is used chiefly as medicine. The honey of Mount Hymettus owes its fine quality to wild thyme. The best honey in Persia and in Florida is collected from the orange blossom. The celebrated honey of Narbonne in the south of France is obtained from a species of rosemary. In Scotland good honey is made from the blossoming heather.

California honey is white and delicate and highly perfumed, and now takes the lead in the market. But honey is honey the world over; and the bee is the bee still. "Men may degenerate," says an old traveler, "may forget the arts by which they acquired renown; manufactures may fail, and commodities be debased; but the sweets of the wild-flowers of the wilderness, the industry and natural mechanics of the bee, will continue without change or derogation."

II

SHARP EYES

YOTING how one eye seconds and reinforces the other, I have often amused myself by wondering what the effect would be if one could go on opening eye after eye to the number say of a dozen or more. What would he see? Perhaps not the invisible, - not the odors of flowers or the fever germs in the air, - not the infinitely small of the microscope or the infinitely distant of the telescope. This would require, not more eyes so much as an eye constructed with more and different lenses; but would he not see with augmented power within the natural limits of vision? At any rate, some persons seem to have opened more eyes than others, they see with such force and distinctness; their vision penetrates the tangle and obscurity where that of others fails like a spent or impotent bullet. How many eyes did Gilbert White open? how many did Henry Thoreau? how many did Audubon? how many does the hunter, matching his sight against the keen and alert sense of a deer or a moose, or fox or a wolf? Not outward eyes, but inward. We open another eye whenever we see beyond the first general fea-

tures or outlines of things,—whenever we grasp the special details and characteristic markings that this mask covers. Science confers new powers of vision. Whenever you have learned to discriminate the birds, or the plants, or the geological features of a country, it is as if new and keener eyes were added.

Of course one must not only see sharply, but read aright what he sees. The facts in the life of Nature that are transpiring about us are like written words that the observer is to arrange into sentences. Or the writing is in cipher and he must furnish the key. A female oriole was one day observed very much preoccupied under a shed where the refuse from the horse stable was thrown. She hopped about among the barn fowls, scolding them sharply when they came too near her. The stable, dark and cavernous, was just beyond. The bird, not finding what she wanted outside, boldly ventured into the stable, and was presently captured by the farmer. What did she want? was the query. What but a horsehair for her nest which was in an apple-tree near by? and she was so bent on having one that I have no doubt she would have tweaked one out of the horse's tail had he been in the stable. Later in the season I examined her nest, and found it sewed through and through with several long horsehairs, so that the bird persisted in her search till the hair was found.

Little dramas and tragedies and comedies, little

characteristic scenes, are always being enacted in the lives of the birds, if our eyes are sharp enough to see them. Some clever observer saw this little comedy played among some English sparrows, and wrote an account of it in his newspaper; it is too good not to be true: A male bird brought to his box a large, fine goose feather, which is a great find for a sparrow and much coveted. After he had deposited his prize and chattered his gratulations over it, he went away in quest of his mate. His next-door neighbor, a female bird, seeing her chance, quickly slipped in and seized the feather; and here the wit of the bird came out, for instead of carrying it into her own box she flew with it to a near tree and hid it in a fork of the branches, then went home, and when her neighbor returned with his mate was innocently employed about her own affairs. The proud male, finding his feather gone, came out of his box in a high state of excitement, and, with wrath in his manner and accusation on his tongue, rushed into the cote of the female. Not finding his goods and chattels there as he had expected, he stormed around awhile, abusing everybody in general and his neighbor in particular, then went away as if to repair the loss. As soon as he was out of sight, the shrewd thief went and brought the feather home and lined her own domicile with it.

I was much amused one summer day in seeing a bluebird feeding her young one in the shaded street

of a large town. She had captured a cicada or harvest-fly, and, after bruising it awhile on the ground, flew with it to a tree and placed it in the beak of the young bird. It was a large morsel, and the mother seemed to have doubts of her chick's ability to dispose of it, for she stood near and watched its efforts with great solicitude. The young bird struggled valiantly with the cicada, but made no headway in swallowing it, when the mother took it from him and flew to the sidewalk, and proceeded to break and bruise it more thoroughly. Then she again placed it in his beak, and seemed to say, "There, try it now," and sympathized so thoroughly with his efforts that she repeated many of his motions and contortions. But the great fly was unvielding, and, indeed, seemed ridiculously disproportioned to the beak that held it. The young bird fluttered and fluttered. and screamed, "I'm stuck, I'm stuck!" till the anxious parent again seized the morsel and carried it to an iron railing, where she came down upon it for the space of a minute with all the force and momentum her beak could command. Then she offered it to her young a third time, but with the same result as before, except that this time the bird dropped it; but she reached the ground as soon as the cicada did, and taking it in her beak flew some distance to a high board fence, where she sat motionless for some moments. While pondering the problem how that fly should be broken, the male bluebird approached

her, and said very plainly, and I thought rather curtly, "Give me that bug," but she quickly resented his interference and flew farther away, where she sat apparently quite discouraged when I last saw her.

The bluebird is a home bird, and I am never tired of recurring to him. His coming or reappearance in the spring marks a new chapter in the progress of the season; things are never quite the same after one has heard that note. The past spring the males came about a week in advance of the females. A fine male lingered about my grounds and orchard all that time, apparently waiting the arrival of his mate. He called and warbled every day, as if he felt sure she was within ear-shot and could be hurried up. Now he warbled half-angrily or upbraidingly, then coaxingly, then cheerily and confidently, the next moment in a plaintive, far-away manner. He would half open his wings, and twinkle them caressingly, as if beckoning his mate to his heart. One morning she had come, but was shy and reserved. The fond male flew to a knothole in an old apple-tree, and coaxed her to his side. I heard a fine confidential warble, - the old, old story. But the female flew to a near tree, and uttered her plaintive, homesick note. The male went and got some dry grass or bark in his beak, and flew again to the hole in the old tree, and promised unremitting devotion, but the other said, "Nay," and flew away in the distance.

When he saw her going, or rather heard her distant note, he dropped his stuff, and cried out in a tone that said plainly enough, "Wait a minute. One word, please," and flew swiftly in pursuit. He won her before long, however, and early in April the pair were established in one of the four or five boxes I had put up for them, but not until they had changed their minds several times. As soon as the first brood had flown, and while they were yet under their parents' care, they began another nest in one of the other boxes, the female, as usual, doing all the work, and the male all the complimenting. A source of occasional great distress to the mother bird was a white cat that sometimes followed me about. The cat had never been known to catch a bird, but she had a way of watching them that was very embarrassing to the bird. Whenever she appeared, the mother bluebird would set up that pitiful melodious plaint. One morning the cat was standing by me, when the bird came with her beak loaded with building material, and alighted above me to survey the place before going into the box. When she saw the cat she was greatly disturbed, and in her agitation could not keep her hold upon all her material. Straw after straw came eddying down, till not half her original burden remained. After the cat had gone away the bird's alarm subsided, till presently, seeing the coast clear, she flew quickly to the box and pitched in her remaining straws with the greatest

precipitation, and, without going in to arrange them, as was her wont, flew away in evident relief.

In the cavity of an apple-tree but a few yards off, and much nearer the house than they usually build, a pair of high-holes, or golden-shafted woodpeckers, took up their abode. A knothole which led to the decayed interior was enlarged, the live wood being cut away as clean as a squirrel would have done it. The inside preparations I could not witness, but day after day, as I passed near, I heard the bird hammering away, evidently beating down obstructions and shaping and enlarging the cavity. The chips were not brought out, but were used rather to floor the interior. The woodpeckers are not nest-builders, but rather nest-carvers.

The time seemed very short before the voices of the young were heard in the heart of the old tree,—at first feebly, but waxing stronger day by day until they could be heard many rods distant. When I put my hand upon the trunk of the tree, they would set up an eager, expectant chattering; but if I climbed up it toward the opening, they soon detected the unusual sound and would hush quickly, only now and then uttering a warning note. Long before they were fully fledged they clambered up to the orifice to receive their food. As but one could stand in the opening at a time, there was a good deal of elbowing and struggling for this position. It was a very desirable one aside from the advantages it had

when food was served; it looked out upon the great. shining world, into which the young birds seemed never tired of gazing. The fresh air must have been a consideration also, for the interior of a high-hole's dwelling is not sweet. When the parent birds came with food, the young one in the opening did not get it all, but after he had received a portion, either on his own motion or on a hint from the old one, he would give place to the one behind him. Still, one bird evidently outstripped his fellows, and in the race of life was two or three days in advance of them. His voice was loudest and his head oftenest at the window. But I noticed that, when he had kept the position too long, the others evidently made it uncomfortable in his rear, and, after "fidgeting" about awhile, he would be compelled to "back down." But retaliation was then easy, and I fear his mates spent few easy moments at that lookout. They would close their eyes and slide back into the cavity as if the world had suddenly lost all its charms for them.

This bird was, of course, the first to leave the nest. For two days before that event he kept his position in the opening most of the time and sent forth his strong voice incessantly. The old ones abstained from feeding him almost entirely, no doubt to encourage his exit. As I stood looking at him one afternoon and noting his progress, he suddenly reached a resolution, — seconded, I have no doubt,

from the rear, — and launched forth upon his untried wings. They served him well, and carried him about fifty yards up-hill the first heat. The second day after, the next in size and spirit left in the same manner; then another, till only one remained. The parent birds ceased their visits to him, and for one day he called and called till our ears were tired of the sound. His was the faintest heart of all. Then he had none to encourage him from behind. He left the nest and clung to the outer bole of the tree, and yelped and piped for an hour longer; then he committed himself to his wings and went his way like the rest.

A young farmer in the western part of New York, who has a sharp, discriminating eye, sends me some interesting notes about a tame high-hole he once had.

"Did you ever notice," says he, "that the highhole never eats anything that he cannot pick up with
his tongue? At least this was the case with a young
one I took from the nest and tamed. He could
thrust out his tongue two or three inches, and it
was amusing to see his efforts to eat currants from
the hand. He would run out his tongue and try to
stick it to the currant; failing in that, he would
bend his tongue around it like a hook and try te
raise it by a sudden jerk. But he never succeeded,
the round fruit would roll and slip away every time.
He never seemed to think of taking it in his beak.
His tongue was in constant use to find out the na-

ture of everything he saw; a nail-hole in a board or any similar hole was carefully explored. If he was held near the face he would soon be attracted by the eye and thrust his tongue into it. In this way he gained the respect of a number of half-grown cats that were around the house. I wished to make them familiar to each other, so there would be less danger of their killing him. So I would take them both on my knee, when the bird would soon notice the kitten's eyes, and, leveling his bill as carefully as a marksman levels his rifle, he would remain so a minute, when he would dart his tongue into the cat's eye. This was held by the cats to be very mysterious: being struck in the eye by something invisible to them. They soon acquired such a terror of him that they would avoid him and run away whenever they saw his bill turned in their direction. He never would swallow a grasshopper even when it was placed in his throat; he would shake himself until he had thrown it out of his mouth. His 'best hold' was ants. He never was surprised at anything, and never was afraid of anything. He would drive the turkey gobbler and the rooster. He would advance upon them holding one wing up as high as possible, as if to strike with it, and shuffle along the ground toward them, scolding all the while in a harsh voice. I feared at first that they might kill him, but I soon found that he was able to take care of himself. I would turn over stones and dig into ant-hills for him,

and he would lick up the ants so fast that a stream of them seemed going into his mouth unceasingly. I kept him till late in the fall, when he disappeared, probably going south, and I never saw him again."

My correspondent also sends me some interesting observations about the cuckoo. He says a large gooseberry-bush standing in the border of an old hedge-row, in the midst of open fields, and not far from his house, was occupied by a pair of cuckoos for two seasons in succession, and, after an interval of a year, for two seasons more. This gave him a good chance to observe them. He says the mother bird lays a single egg, and sits upon it a number of days before laying the second, so that he has seen one young bird nearly grown, a second just hatched, and a whole egg, all in the nest at once. "So far as I have seen, this is the settled practice, — the young leaving the nest one at a time to the number of six or eight. The young have quite the look of the young of the dove in many respects. When nearly grown they are covered with long blue pinfeathers as long as darning-needles, without a bit of plumage on them. They part on the back and hang down on each side by their own weight. With its curious feathers and misshapen body, the young bird is anything but handsome. They never open their mouths when approached, as many young birds do, but sit perfectly still, hardly moving when touched." He also notes the unnatural indifference of the mo-

ther bird when her nest and young are approached. She makes no sound, but sits quietly on a near branch in apparent perfect unconcern.

These observations, together with the fact that the egg of the cuckoo is occasionally found in the nests of other birds, raise the inquiry whether our bird is slowly relapsing into the habit of the European species, which always foists its egg upon other birds; or whether, on the other hand, it is not mending its manners in this respect. It has but little to unlearn or to forget in the one case, but great progress to make in the other. How far is its rudimentary nest - a mere platform of coarse twigs and dry stalks of weeds — from the deep, compact, finely woven and finely modeled nest of the goldfinch or the kingbird, and what a gulf between its indifference toward its young and their solicitude! Its irregular manner of laying also seems better suited to a parasite like our cowbird, or the European cuckoo, than to a regular nest-builder.

This observer, like most sharp-eyed persons, sees plenty of interesting things as he goes about his work. He one day saw a white swallow, which is of rare occurrence. He saw a bird, a sparrow he thinks, fly against the side of a horse and fill his beak with hair from the loosened coat of the animal. He saw a shrike pursue a chickadee, when the latter escaped by taking refuge in a small hole in a tree. One day in early spring he saw two hen-hawks, that

were circling and screaming high in air, approach each other, extend a claw, and, clasping them together, fall toward the earth, flapping and struggling as if they were tied together; on nearing the ground they separated and soared aloft again. He supposed that it was not a passage of war but of love, and that the hawks were toying fondly with each other.

He further relates a curious circumstance of finding a hummingbird in the upper part of a barn with its bill stuck fast in a crack of one of the large timbers, dead, of course, with wings extended, and as dry as a chip. The bird seems to have died, as it had lived, on the wing, and its last act was indeed a ghastly parody of its living career. Fancy this nimble, flashing sprite, whose life was passed probing the honeyed depths of flowers, at last thrusting its bill into a crack in a dry timber in a hay-loft, and, with spread wings, ending its existence!

When the air is damp and heavy, swallows frequently hawk for insects about cattle and moving herds in the field. My farmer describes how they attended him one foggy day, as he was mowing in the meadow with a mowing-machine. It had been foggy for two days, and the swallows were very hungry, and the insects stupid and inert. When the sound of his machine was heard, the swallows appeared and attended him like a brood of hungry chickens. He says there was a continued rush of purple wings over the "cut-bar," and just where it

was causing the grass to tremble and fall. Without his assistance the swallows would doubtless have gone hungry yet another day.

Of the hen-hawk, he has observed that both male and female take part in incubation. "I was rather surprised," he says, "on one occasion, to see how quickly they change places on the nest. The nest was in a tall beech, and the leaves were not yet fully out. I could see the head and neck of the hawk over the edge of the nest, when I saw the other hawk coming down through the air at full speed. I expected he would alight near by, but instead of that he struck directly upon the nest, his mate getting out of the way barely in time to avoid being hit; it seemed almost as if he had knocked her off the nest. I hardly see how they can make such a rush on the nest without danger to the eggs."

The kingbird will worry the hawk as a whiffet dog will worry a bear. It is by his persistence and audacity, not by any injury he is capable of dealing his great antagonist. The kingbird seldom more than dogs the hawk, keeping above and between his wings, and making a great ado; but my correspondent says he once "saw a kingbird riding on a hawk's back. The hawk flew as fast as possible, and the kingbird sat upon his shoulders in triumph until they had passed out of sight," —tweaking his feathers, no doubt, and threatening to scalp him the next moment.

That near relative of the kingbird, the great crested flycatcher, has one well-known peculiarity: he appears never to consider his nest finished until it contains a cast-off snake-skin. My alert correspondent one day saw him eagerly catch up an onion skin and make off with it, either deceived by it or else thinking it a good substitute for the coveted material.

One day in May, walking in the woods, I came upon the nest of a whip-poor-will, or rather its eggs, for it builds no nest, - two elliptical whitish spotted eggs lying upon the dry leaves. My foot was within a vard of the mother bird before she flew, I wondered what a sharp eye would detect curious or characteristic in the ways of the bird, so I came to the place many times and had a look. It was always a task to separate the bird from her surroundings, though I stood within a few feet of her, and knew exactly where to look. One had to bear on with his eye, as it were, and refuse to be baffled. The sticks and leaves, and bits of black or dark brown bark, were all exactly copied in the bird's plumage. And then she did sit so close, and simulate so well a shapeless, decaying piece of wood or bark! Twice I brought a companion, and, guiding his eye to the spot, noted how difficult it was for him to make out there, in full view upon the dry leaves, any semblance to a bird. When the bird returned after being disturbed, she would alight within a few inches of

her eggs, and then, after a moment's pause, hobble awkwardly upon them.

After the young had appeared, all the wit of the bird came into play. I was on hand the next day, I think. The mother bird sprang up when I was within a pace of her, and in doing so fanned the leaves with her wings till they sprang up, too; as the leaves started the young started, and, being of the same color, to tell which was the leaf and which the bird was a trying task to any eye. I came the next day, when the same tactics were repeated. Once a leaf fell upon one of the young birds and nearly hid it. The young are covered with a reddish down, like a young partridge, and soon follow their mother about. When disturbed, they gave but one leap, then settled down, perfectly motionless and stupid, with eyes closed. The parent bird, on these occasions, made frantic efforts to decoy me away from her young. She would fly a few paces and fall upon her breast, and a spasm, like that of death, would run through her tremulous outstretched wings and prostrate body. She kept a sharp eye out the meanwhile to see if the ruse took, and, if it did not, she was quickly cured, and, moving about to some other point, tried to draw my attention as before. When followed she always alighted upon the ground, dropping down in a sudden peculiar way. The second or third day both old and young had disappeared.

The whip-poor-will walks as awkwardly as a swal-

low, which is as awkward as a man in a bag, and yet she manages to lead her young about the woods. The latter, I think, move by leaps and sudden spurts, their protective coloring shielding them most effectively. Wilson once came upon the mother bird and her brood in the woods, and, though they were at his very feet, was so baffled by the concealment of the young that he was about to give up the search, much disappointed, when he perceived something "like a slight mouldiness among the withered leaves, and, on stooping down, discovered it to be a young whip-poor-will, seemingly asleep." Wilson's description of the young is very accurate, as its downy covering does look precisely like a "slight mouldiness." Returning a few moments afterward to the spot to get a pencil he had forgotten, he could find neither old nor young.

It takes an eye to see a partridge in the woods, motionless upon the leaves; this sense needs to be as sharp as that of smell in hounds and pointers, and yet I know an unkempt youth that seldom fails to see the bird and to shoot it before it takes wing. I think he sees it as soon as it sees him, and before it suspects itself seen. What a training to the eye is hunting! to pick out the game from its surroundings, the grouse from the leaves, the gray squirrel from the mossy oak limb it hugs so closely, the red fox from the ruddy or brown or gray field, the rabbit from the stubble, or the white hare from the

snow, requires the best powers of this sense. A woodchuck motionless in the fields or upon a rock looks very much like a large stone or boulder, yet a keen eye knows the difference at a glance, a quarter of a mile away.

A man has a sharper eve than a dog, or a fox, or than any of the wild creatures, but not so sharp an ear or nose. But in the birds he finds his match. How quickly the old turkey discovers the hawk, a mere speck against the sky, and how quickly the hawk discovers you if you happen to be secreted in the bushes, or behind the fence near which he alights! One advantage the bird surely has, and that is, owing to the form, structure, and position of the eye, it has a much larger field of vision, - indeed, can probably see in nearly every direction at the same instant, behind as well as before. Man's field of vision embraces less than half a circle horizontally, and still less vertically; his brow and brain prevent him from seeing within many degrees of the zenith without a movement of the head; the bird, on the other hand, takes in nearly the whole sphere at a glance.

I find I see, almost without effort, nearly every bird within sight in the field or wood I pass through (a flit of the wing, a flirt of the tail are enough, though the flickering leaves do all conspire to hide them), and that with like ease the birds see me, though unquestionably the chances are immensely in

their favor. The eye sees what it has the means of seeing, truly. You must have the bird in your heart before you can find it in the bush. The eye must have purpose and aim. No one ever yet found the walking fern who did not have the walking fern in his mind. A person whose eye is full of Indian relics picks them up in every field he walks through.

One season I was interested in the tree-frogs, especially the tiny piper that one hears about the woods and brushy fields, —the hyla of the swamps become a denizen of the trees; I had never seen him in this new rôle. But this season, having hylas in mind, or rather being ripe for them, I several times came across them. One Sunday, walking amid some bushes, I captured two. They leaped before me, as doubtless they had done many times before; but though not looking for or thinking of them, yet they were quickly recognized, because the eye had been commissioned to find them. On another occasion, not long afterward, I was hurriedly loading my gun in the October woods in hopes of overtaking a gray squirrel that was fast escaping through the treetops, when one of these lilliput frogs, the color of the fast-yellowing leaves, leaped near me. I saw him only out of the corner of my eye and yet bagged him, because I had already made him my own.

Nevertheless the habit of observation is the habit of clear and decisive gazing: not by a first casual

glance, but by a steady, deliberate aim of the eye, are the rare and characteristic things discovered. You must look intently, and hold your eye firmly to the spot, to see more than do the rank and file of mankind. The sharpshooter picks out his man, and knows him with fatal certainty from a stump, or a rock, or a cap on a pole. The phrenologists do well to locate, not only form, color, and weight, in the region of the eye, but also a faculty which they call individuality,—that which separates, discriminates, and sees in every object its essential character. This is just as necessary to the naturalist as to the artist or the poet. The sharp eye notes specific points and differences,—it seizes upon and preserves the individuality of the thing.

Persons frequently describe to me some bird they have seen or heard, and ask me to name it, but in most cases the bird might be any one of a dozen, or else it is totally unlike any bird found on this continent. They have either seen falsely or else vaguely. Not so the farm youth who wrote me one winter day that he had seen a single pair of strange birds, which he describes as follows: "They were about the size of the 'chippie;" the tops of their heads were red, and the breast of the male was of the same color, while that of the female was much lighter; their rumps were also faintly tinged with red. If I have described them so that you would know them, please write me their names." There can be little

doubt but the young observer had seen a pair of redpolls, — a bird related to the goldfinch, and that occasionally comes down to us in the winter from the far north. Another time, the same youth wrote that he had seen a strange bird, the color of a sparrow, that alighted on fences and buildings as well as upon the ground, and that walked. This last fact showed the youth's discriminating eye and settled the case. From this and the season, and the size and color of the bird, I knew he had seen the pipit or titlark. But how many persons would have observed that the bird walked instead of hopped?

Some friends of mine who lived in the country tried to describe to me a bird that built a nest in a tree within a few feet of the house. As it was a brown bird, I should have taken it for a wood thrush, had not the nest been described as so thin and loose that from beneath the eggs could be distinctly seen. The most pronounced feature in the description was the barred appearance of the under side of the bird's tail. I was quite at sea, until one day, when we were driving out, a cuckoo flew across the road in front of us, when my friends exclaimed, "There is our bird!" I had never known a cuckoo to build near a house, and I had never noted the appearance the tail presents when viewed from beneath; but if the bird had been described in its most obvious features, as slender, with a long tail, cinnamon brown above and white beneath, with a curved bill, any

one who knew the bird would have recognized the portrait.

We think we have looked at a thing sharply until we are asked for its specific features. I thought I knew exactly the form of the leaf of the tulip-tree, until one day a lady asked me to draw the outlines of one. A good observer is quick to take a hint and to follow it up. Most of the facts of nature, especially in the life of the birds and animals, are well screened. We do not see the play because we do not look intently enough. The other day I was sitting with a friend upon a high rock in the woods, near a small stream, when we saw a water-snake swimming across a pool toward the opposite bank. Any eye would have noted it, perhaps nothing more. A little closer and sharper gaze revealed the fact that the snake bore something in its mouth, which, as we went down to investigate, proved to be a small catfish, three or four inches long. The snake had captured it in the pool, and, like any other fisherman, wanted to get its prey to dry land, although it itself lived mostly in the water. Here, we said, is being enacted a little tragedy that would have escaped any but sharp eyes. The snake, which was itself small, had the fish by the throat, the hold of vantage among all creatures, and clung to it with great tenacity. The snake knew that its best tactics was to get upon dry land as soon as possible. It could not swallow its victim alive, and it could not

strangle it in the water. For a while it tried to kill its game by holding it up out of the water, but the fish grew heavy, and every few moments its struggles brought down the snake's head. This would not do. Compressing the fish's throat would not shut off its breath under such circumstances, so the wily serpent tried to get ashore with it, and after several attempts succeeded in effecting a landing on a flat rock. But the fish died hard. Catfish do not give up the ghost in a hurry. Its throat was becoming congested, but the snake's distended jaws must have ached. It was like a petrified gape. Then the spectators became very curious and close in their scrutiny, and the snake determined to withdraw from the public gaze and finish the business in hand to its own notions. But, when gently but firmly remonstrated with by my friend with his walking-stick, it dropped the fish and retreated in high dudgeon beneath a stone in the bed of the creek. The fish, with a swollen and angry throat, went its way also.

Birds, I say, have wonderfully keen eyes. Throw a fresh bone or a piece of meat upon the snow in winter, and see how soon the crows will discover it and be on hand. If it be near the house or barn, the crow that first discovers it will alight near it, to make sure he is not deceived; then he will go away, and soon return with a companion. The two alight a few yards from the bone, and after some delay,

during which the vicinity is sharply scrutinized, one of the crows advances boldly to within a few feet of the coveted prize. Here he pauses, and if no trick is discovered, and the meat be indeed meat, he seizes it and makes off.

One midwinter I cleared away the snow under an apple-tree near the house and scattered some corn there. I had not seen a blue jay for weeks, yet that very day one found my corn, and after that several came daily and partook of it, holding the kernels under their feet upon the limbs of the trees and pecking them vigorously.

Of course the woodpecker and his kind have sharp eyes, still I was surprised to see how quickly Downy found out some bones that were placed in a convenient place under the shed to be pounded up for the hens. In going out to the barn I often disturbed him making a meal off the bits of meat that still adhered to them.

"Look intently enough at anything," said a poet to me one day, "and you will see something that would otherwise escape you." I thought of the remark as I sat on a stump in an opening of the woods one spring day. I saw a small hawk approaching; he flew to a tall tulip-tree, and alighted on a large limb near the top. He eyed me and I eyed him. Then the bird disclosed a trait that was new to me: he hopped along the limb to a small cavity near the trunk, when he thrust in his head and pulled out

some small object and fell to eating it. After he had partaken of it for some minutes he put the remainder back in his larder and flew away. I had seen something like feathers eddying slowly down as the hawk ate, and on approaching the spot found the feathers of a sparrow here and there clinging to the bushes beneath the tree. The hawk, then, — commonly called the chicken hawk,—is as provident as a mouse or a squirrel, and lays by a store against a time of need, but I should not have discovered the fact had I not held my eye on him.

An observer of the birds is attracted by any unusual sound or commotion among them. In May or June, when other birds are most vocal, the jay is a silent bird; he goes sneaking about the orchards and the groves as silent as a pickpocket; he is robbing birds'-nests, and he is very anxious that nothing should be said about it, but in the fall none so quick and loud to cry "Thief, thief!" as he. One December morning a troop of jays discovered a little screech owl secreted in the hollow trunk of an old apple-tree near my house. How they found the owl out is a mystery, since it never ventures forth in the light of day; but they did, and proclaimed the fact with great emphasis. I suspect the bluebirds first told them, for these birds are constantly peeping into holes and crannies both spring and fall. Some unsuspecting bird had probably entered the cavity prospecting for a place for next year's nest, or else

looking out a likely place to pass a cold night, and then had rushed out with important news. A boy who should unwittingly venture into a bear's den when Bruin was at home could not be more astonished and alarmed than a bluebird would be on finding itself in a cavity of a decayed tree with an owl. At any rate, the bluebirds joined the jays in calling the attention of all whom it might concern to the fact that a culprit of some sort was hiding from the light of day in the old apple-tree. I heard the notes of warning and alarm and approached to within eveshot. The bluebirds were cautious and hovered about uttering their peculiar twittering calls; but the jays were bolder and took turns looking in at the cavity, and deriding the poor, shrinking owl. A jay would alight in the entrance of the hole, and flirt and peer and attitudinize, and then fly away crying "Thief, thief, thief!" at the top of his voice.

I climbed up and peered into the opening, and could just descry the owl clinging to the inside of the tree. I reached in and took him out, giving little heed to the threatening snapping of his beak. He was as red as a fox and as yellow-eyed as a cat. He made no effort to escape, but planted his claws in my forefinger and clung there with a grip that soon grew uncomfortable. I placed him in the loft of an outhouse, in hopes of getting better acquainted with him. By day he was a very willing prisoner, scarcely moving at all, even when approached and

touched with the hand, but looking out upon the world with half-closed, sleepy eyes. But at night what a change! how alert, how wild, how active! He was like another bird; he darted about with wide, fearful eyes, and regarded me like a cornered cat. I opened the window, and swiftly, but as silent as a shadow, he glided out into the congenial darkness, and perhaps, ere this, has revenged himself upon the sleeping jay or bluebird that first betrayed his hiding-place.

TIT

STRAWBERRIES

Was it old Dr. Parr who said or sighed in his last illness, "Oh, if I can only live till strawberries come!" The old scholar imagined that, if he could weather it till then, the berries would carry him through. No doubt he had turned from the drugs and the nostrums, or from the hateful food, to the memory of the pungent, penetrating, and unspeakably fresh quality of the strawberry with the deepest longing. The very thought of these crimson lobes, embodying as it were the first glow and ardor of the young summer, and with their power to unsheathe the taste and spur the flagging appetite, made life seem possible and desirable to him.

The strawberry is always the hope of the invalid, and sometimes, no doubt, his salvation. It is the first and finest relish among fruits, and well merits Dr. Boteler's memorable saying, that "doubtless God could have made a better berry, but doubtless God never did."

On the threshold of summer, Nature proffers us his her virgin fruit; more rich and sumptuous are to follow, but the wild delicacy and fillip of the

strawberry are never repeated, — that keen feathered edge greets the tongue in nothing else.

Let me not be afraid of overpraising it, but probe and probe for words to hint its surprising virtues. We may well celebrate it with festivals and music. It has that indescribable quality of all first things,—that shy, uncloying, provoking barbed sweetness. It is eager and sanguine as youth. It is born of the copious dews, the fragrant nights, the tender skies, the plentiful rains of the early season. The singing of birds is in it, and the health and frolic of lusty Nature. It is the product of liquid May touched by the June sun. It has the tartness, the briskness, the unruliness of spring, and the aroma and intensity of summer.

Oh, the strawberry days! how vividly they come back to one! The smell of clover in the fields, of blooming rye on the hills, of the wild grape beside the woods, and of the sweet honeysuckle and the spiræa about the house. The first hot, moist days. The daisies and the buttercups; the songs of the birds, their first reckless jollity and love-making over; the full tender foliage of the trees; the bees swarming, and the air strung with resonant musical chords. The time of the sweetest and most succulent grass, when the cows come home with aching udders. Indeed, the strawberry belongs to the juiciest time of the year.

What a challenge it is to the taste! how it bites

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back again! and is there any other sound like the snap and crackle with which it salutes the ear on being plucked from the stems? It is a threat to one sense that the other is soon to verify. It snaps to the ear as it smacks to the tongue. All other berries are tame beside it.

The plant is almost an evergreen; it loves the coverlid of the snow, and will keep fresh through the severest winters with a slight protection. The frost leaves its virtues in it. The berry is a kind of vegetable snow. How cool, how tonic, how melting, and how perishable! It is almost as easy to keep frost. Heat kills it, and sugar quickly breaks up its cells.

Is there anything like the odor of strawberries? The next best thing to tasting them is to smell them; one may put his nose to the dish while the fruit is yet too rare and choice for his fingers. Touch not and taste not, but take a good smell and go mad! Last fall I potted some of the Downer, and in the winter grew them in the house. In March the berries were ripe, only four or five on a plant, just enough, all told, to make one consider whether it were not worth while to kill off the rest of the household, so that the berries need not be divided. But if every tongue could not have a feast, every nose banqueted daily upon them. They filled the house with perfume. The Downer is remarkable in this respect. Grown in the open field, it surpasses in its

odor any strawberry of my acquaintance. And it scarcely less agreeable to the taste. It is a very beautiful berry to look upon, round, light pink, with a delicate, fine-grained expression. Some berries shine, the Downer glows as if there were a red bloom upon it. Its core is firm and white, its skin this and easily bruised, which makes it a poor market berry, but, with its high flavor and productiveness, an admirable one for home use. It seems to be as easily grown as the Wilson, while it is much more palatable. The great trouble with the Wilson, as everybody knows, is its rank acidity. When it first comes, it is difficult to eat it without making faces. It is crabbed and acrimonious. Like some persons, the Wilson will not ripen and sweeten till its old age. Its largest and finest crop, if allowed to remain on the vines, will soften and fail unregenerated, or with all its sins upon it. But wait till toward the end of the season, after the plant gets over its hurry and takes time to ripen its fruit. The berry will then face the sun for days, and, if the weather is not too wet, instead of softening will turn dark and grow rich. Out of its crabbedness and spitefulness come the finest, choicest flavors. It is an astonishing berry. It lays hold of the taste in a way that the aristocratic berries, like the Jocunda or the Triumph, cannot approximate to. Its quality is as penetrating as that of ants and wasps, but sweet. It is, indeed, a wild bee turned into a

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berry, with the sting mollified and the honey disguised. A quart of these rare-ripes I venture to say contains more of the peculiar virtue and excellence of the strawberry kind than can be had in twice the same quantity of any other cultivated variety. Take these berries in a bowl of rich milk with some bread, — ah, what a dish!—too good to set before a king! I suspect this was the food of Adam in Paradise, only Adam did not have the Wilson strawberry; he had the wild strawberry that Eve plucked in their hill-meadow and "hulled" with her own hands, and that, take it all in all, even surpasses the late-ripened Wilson.

Adam is still extant in the taste and the appetite of most country boys; lives there a country boy who does not like wild strawberries and milk, - yea, prefer it to any other known dish? I am not thinking of a dessert of strawberries and cream; this the city boy may have, too, after a sort; but breadand-milk, with the addition of wild strawberries, is peculiarly a country dish, and is to the taste what a wild bird's song is to the ear. When I was a lad, and went afield with my hoe or with the cows, during the strawberry season, I was sure to return at meal-time with a lining of berries in the top of my straw hat. They were my daily food, and I could taste the liquid and gurgling notes of the bobolink in every spoonful of them; and to this day, to make a dinner or supper off a bowl of milk with bread

and strawberries, — plenty of strawberries, — well, is as near to being a boy again as I ever expect to come. The golden age draws sensibly near. Appetite becomes a kind of delicious thirst, — a gentle and subtle craving of all parts of the mouth and throat, — and those nerves of taste that occupy, as it were, a back seat, and take little cognizance of grosser foods, come forth, and are played upon and set vibrating. Indeed, I think, if there is ever rejoicing throughout one's alimentary household, — if ever that much-abused servant, the stomach, says Amen, or those faithful handmaidens, the liver and spleen, nudge each other delightedly, it must be when one on a torrid summer day passes by the solid and carnal dinner for this simple Arcadian dish.

The wild strawberry, like the wild apple, is spicy and high-flavored, but, unlike the apple, it is also mild and delicious. It has the true rustic sweetness and piquancy. What it lacks in size, when compared with the garden berry, it makes up in intensity. It is never dropsical or overgrown, but firm-fleshed and hardy. Its great enemies are the plow, gypsum, and the horse-rake. It dislikes a limestone soil, but seems to prefer the detritus of the stratified rock. Where the sugar maple abounds, I have always found plenty of wild strawberries. We have two kinds,—the wood berry and the field berry. The former is as wild as a partridge. It is found in open places in the woods and along the borders, growing beside

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stumps and rocks, never in abundance, but very sparsely. It is small, cone-shaped, dark red, shiny, and pimply. It looks woody, and tastes so. It has never reached the table, nor made the acquaintance of cream. A quart of them, at a fair price for human labor, would be worth their weight in silver at least. (Yet a careful observer writes me that in certain sections in the western part of New York they are very plentiful.)

Ovid mentions the wood strawberry, which would lead one to infer that they were more abundant in his time and country than in ours.

This is, perhaps, the same as the alpine strawberry, which is said to grow in the mountains of Greece, and thence northward. This was probably the first variety cultivated, though our native species would seem as unpromising a subject for the garden as club-moss or wintergreens.

Of the field strawberry there are a great many varieties,—some growing in meadows, some in pastures, and some upon mountain-tops. Some are round, and stick close to the calyx or hull; some are long and pointed, with long, tapering necks. These usually grow upon tall stems. They are, indeed, of the slim, linear kind. Your corpulent berry keeps close to the ground; its stem and foot-stalk are short, and neck it has none. Its color is deeper than that of its tall brother, and of course it has more juice. You are more apt to find the tall varie-

ties upon knolls in low, wet meadows, and again upon mountain-tops, growing in tussocks of wild grass about the open summits. These latter ripen in July, and give one his last taste of strawberries for the season.

But the favorite haunt of the wild strawberry is an uplying meadow that has been exempt from the plow for five or six years, and that has little timothy and much daisy. When you go a-berrying, turn your steps toward the milk-white meadows. The slightly bitter odor of the daisies is very agreeable to the smell, and affords a good background for the perfume of the fruit. The strawberry cannot cope with the rank and deep-rooted clover, and seldom appears in a field till the clover has had its day. But the daisy with its slender stalk does not crowd or obstruct the plant, while its broad white flower is like a light parasol that tempers and softens the too strong sunlight. Indeed, daisies and strawberries are generally associated. Nature fills her dish with the berries, then covers them with the white and yellow of milk and cream, thus suggesting a combination we are quick to follow. Milk alone, after it loses its animal heat, is a clod, and begets torpidity of the brain; the berries lighten it, give wings to it, and one is fed as by the air he breathes or the water he drinks.

Then the delight of "picking" the wild berries! It is one of the fragrant memories of boyhood. In-

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deed, for boy or man to go a-berrying in a certain pastoral country I know of, where a passer-by along the highway is often regaled by a breeze loaded with a perfume of the o'er-ripe fruit, is to get nearer to June than by almost any course I know of. Your errand is so private and confidential! You stoop low. You part away the grass and the daisies, and would lay bare the inmost secrets of the meadow. Everything is yet tender and succulent; the very air is bright and new; the warm breath of the meadow comes up in your face; to your knees you are in a sea of daisies and clover; from your knees up, you are in a sea of solar light and warmth. Now you are prostrate like a swimmer, or like a surfbather reaching for pebbles or shells, the white and green spray breaks above you; then, like a devotee before a shrine or naming his beads, your rosary strung with luscious berries; anon you are a grazing Nebuchadnezzar, or an artist taking an inverted view of the landscape.

The birds are alarmed by your close scrutiny of their domain. They hardly know whether to sing or to cry, and do a little of both. The bobolink follows you and circles above and in advance of you, and is ready to give you a triumphal exit from the field, if you will only depart.

"Ye boys that gather flowers and strawberries, Lo, hid within the grass, an adder lies,"

Warton makes Virgil sing; and Montaigne, in his "Journey to Italy," says: "The children very often are afraid, on account of the snakes, to go and pick the strawberries that grow in quantities on the mountains and among bushes." But there is no serpent here, — at worst, only a bumblebee's or yellowjacket's nest. You soon find out the spring in the corner of the field under the beechen tree. While you wipe your brow and thank the Lord for spring water, you glance at the initials in the bark, some of them so old that they seem runic and legendary. You find out, also, how gregarious the strawberry is, - that the different varieties exist in little colonies about the field. When you strike the outskirts of one of these plantations, how quickly you work toward the centre of it, and then from the centre out, then circumnavigate it, and follow up all its branchings and windings!

Then the delight in the abstract and in the concrete of strolling and lounging about the June meadows; of lying in pickle for half a day or more in this pastoral sea, laved by the great tide, shone upon by the virile sun, drenched to the very marrow of your being with the warm and wooing influences of the young summer!

I was a famous berry-picker when a boy. It was near enough to hunting and fishing to enlist me. Mother would always send me in preference to any of the rest of the boys. I got the biggest berries

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and the most of them. There was something of the excitement of the chase in the occupation, and something of the charm and preciousness of game about the trophies. The pursuit had its surprises, its expectancies, its sudden disclosures, - in fact, its uncertainties. I went forth adventurously. I could wander free as the wind. Then there were moments of inspiration, for it always seemed a felicitous stroke to light upon a particularly fine spot, as it does when one takes an old and wary trout. You discovered the game where it was hidden. Your genius prompted you. Another had passed that way and had missed the prize. Indeed, the successful berrypicker, like Walton's angler, is born, not made. It is only another kind of angling. In the same field one boy gets big berries and plenty of them; another wanders up and down, and finds only a few little ones. He cannot see them; he does not know how to divine them where they lurk under the leaves and vines. The berry-grower knows that in the cultivated patch his pickers are very unequal, the baskets of one boy or girl having so inferior a look that it does not seem possible they could have been filled from the same vines with certain others. But neither blunt fingers nor blunt eves are hard to find: and as there are those who can see nothing clearly, so there are those who can touch nothing deftly or gently.

The cultivation of the strawberry is thought to be

comparatively modern. The ancients appear to have been a carnivorous race: they gorged themselves with meat; while the modern man makes larger and larger use of fruits and vegetables, until this generation is doubtless better fed than any that has preceded it. The strawberry and the apple, and such vegetables as celery, ought to lengthen human life, — at least to correct its biliousness and make it more sweet and sanguine.

The first impetus to strawberry culture seems to have been given by the introduction of our field berry (Fragoria Virginiana) into England in the seventeenth century, though not much progress was made till the eignteenth. This variety is much more fragrant and aromatic than the native berry of Europe, though less so in that climate than when grown here. Many new seedlings sprang from it, and it was the prevailing berry in English and French gardens, says Fuller, until the South American species, grandiflora, was introduced and supplanted it. This berry is naturally much larger and sweeter, and better adapted to the English climate, than our Virginiana. Hence the English strawberries of to-day surpass ours in these respects, but are wanting in that aromatic pungency that characterizes most of our berries.

The Jocunda, Triumph, Victoria, are foreign varieties of the Grandiflora species; while the Hovey, the Boston Pine, the Downer, are natives of this country.

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The strawberry, in the main, repeats the form of the human heart, and perhaps, of all the small fruits known to man, none other is so deeply and fondly cherished, or hailed with such universal delight, as this lowly but youth-renewing berry. Park of the second beginning to the force of the force of the second facility of the force of th

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IV

IS IT GOING TO RAIN?

SUSPECT that, like most countrymen, I was born with a chronic anxiety about the weather. Is it going to rain or snow, be hot or cold, wet or dry?—are inquiries upon which I would fain get the views of every man I meet, and I find that most men are fired with the same desire to get my views upon the same set of subjects. To a countryman the weather means something, - to a farmer especially. The farmer has sowed and planted and reaped and vended nothing but weather all his life. The weather must lift the mortgage on his farm, and pay his taxes, and feed and clothe his family. Of what use is his labor unless seconded by the weather? Hence there is speculation in his eye whenever he looks at the clouds, or the moon, or the sunset, or the stars; for even the Milky Way, in his view, may point the direction of the wind to-morrow, and hence is closely related to the price of butter. He may not take the sage's advice to "hitch his wagon to a star," but he pins his hopes to the moon, and plants and sows by its phases.

Then the weather is that phase of Nature in which she appears not the immutable fate we are so wont to regard her, but on the contrary something quite human and changeable, not to say womanish, - a creature of moods, of caprices, of cross purposes; gloomy and downcast to-day, and all light and joy to-morrow; caressing and tender one moment, and severe and frigid the next; one day iron, the next day vapor; inconsistent, inconstant, incalculable; full of genius, full of folly, full of extremes; to be read and understood, not by rule, but by subtle signs and indirections, — by a look, a glance, a presence, as we read and understand a man or a woman. Some days are like a rare poetic mood. There is a felicity and an exhilaration about them from morning till night. They are positive and fill one with celestial fire. Other days are negative and drain one of his electricity.

Sometimes the elements show a marked genius for fair weather, as in the fall and early winter of 1877, when October, grown only a little stern, lasted till January. Every shuffle of the cards brought these mild, brilliant days uppermost. There was not enough frost to stop the plow, save once perhaps, till the new year set in. Occasionally a fruit-tree put out a blossom and developed young fruit. The warring of the elements was chiefly done on the other side of the globe, where it formed an accompaniment to the human war raging there. In our

usually merciless skies was written only peace and good-will to men, for months.

What a creature of habit, too, Nature is as she appears in the weather! If she miscarry once she will twice and thrice, and a dozen times. In a wet time it rains to-day because it rained yesterday, and will rain to-morrow because it rained to-day. Are the crops in any part of the country drowning? They shall continue to drown. Are they burning up? They shall continue to burn. The elements get in a rut and can't get out without a shock. I know a farmer who, in a dry time, when the clouds gather and look threatening, gets out his wateringpot at once, because, he says, "it won't rain, and 't is an excellent time to apply the water." Of course, there comes a time when the farmer is wrong, but he is right four times out of five.

But I am not going to abuse the weather; rather to praise it, and make some amends for the many ill-natured things I have said, within hearing of the clouds, when I have been caught in the rain or been parched and withered by the drought.

When Mr. Fields's "Village Dogmatist" was asked what caused the rain, or the fog, he leaned upon his cane and answered, with an air of profound wisdom, that "when the atmosphere and hemisphere come together it causes the earth to sweat, and thereby produces the rain,"—or the fog, as the case may be. The explanation is a little vague,

as his biographer suggests, but it is picturesque, and there can be little doubt that two somethings do come in contact that produce a sweating when it rains or is foggy. More than that, the philosophy is simple and comprehensive, which Goethe said was the main matter in such things. Goethe's explanation is still more picturesque, but I doubt if it is a bit better philosophy. "I compare the earth and her atmosphere," he said to Eckermann, "to a great living being perpetually inhaling and exhaling. If she inhale she draws the atmosphere to her, so that, coming near her surface, it is condensed to clouds and rain. This state I call water-affirmative." The opposite state, when the earth exhales and sends the watery vapors upward so that they are dissipated through the whole space of the high, r atmosphere, he called "water-negative."

This is good literature, and worthy the great poet; the science of it I would not be so willing to vouch for.

The poets, more perhaps than the scientists, have illustrated and held by the great law of alternation, of ebb and flow, of turn and return, in nature. An equilibrium, or, what is the same thing, a straight line, Nature abhors more than she does a vacuum. If the moisture of the air were uniform, or the heat uniform, that is, in equilibrio, how could it rain? what would turn the scale? But these things are keaped up, are in waves. There is always a prepon-

derance one way or the other; always "a steep inequality." Down this incline the rain comes, and up the other side it goes. The high barometer travels like the crest of a sea, and the low barometer like the trough. When the scale kicks the beam in one place, it is correspondingly depressed in some other. When the east is burning up, the west is generally drowning out. The weather, we say, is always in extremes; it never rains but it pours: but this is only the abuse of a law on the part of the elements which is at the bottom of all the life and motion on the globe.

The rain itself comes in shorter or longer waves, - now fast, now slow - and sometimes in regular throbs or pulse-beats. The fall and winter rains are, as a rule, the most deliberate and general, but the spring and summer rains are always more or less impulsive and capricious. One may see the rain stalking across the hills or coming up the valley in single file, as it were. Another time it moves in vast masses or solid columns, with broad open spaces between. I have seen a spring snowstorm lasting nearly all day that swept down in rapid intermittent sheets or gusts. The waves or pulsations of the storm were nearly vertical and were very marked. But the great fact about the rain is that it is the most beneficent of all the operations of nature; more immediately than sunlight even, it means life and growth. Moisture is the Eve of the physical world,

the soft teeming principle given to wife to Adam or heat, and the mother of all that lives. Sunshine abounds everywhere, but only where the rain or dew follows is there life. The earth had the sun long before it had the humid cloud, and will doubtless continue to have it after the last drop of moisture has perished or been dissipated. The moon has sunshine enough, but no rain; hence it is a dead world -a lifeless cinder. It is doubtless true that certain of the planets, as Saturn and Jupiter, have not vet reached the condition of the cooling and ameliorating rains, while in Mars vapor appears to be precipitated only in the form of snow; he is probably past the period of the summer shower. There are clouds and vapors in the sun itself, -clouds of flaming hydrogen and metallic vapors, and a rain every drop of which is a burning or molten meteor. Our earth itself has doubtless passed through the period of the fiery and consuming rains. Mr. Proctor thinks there may have been a time when its showers were downpourings of "muriatic, nitric, and sulphuric acid, not only intensely hot, but fiercely burning through their chemical activity." Think of a dew that would blister and destroy like the oil of vitriol! but that period is far behind us now. When this fearful fever was past and the earth began to "sweat;" when these soft, delicious drops began to come down, or this impalpable rain of the cloudless nights to fall, - the period of organic life

was inaugurated. Then there was hope and a promise of the future. The first rain was the turning-point, the spell was broken, relief was at hand. Then the blazing furies of the fore world began to give place to the gentler divinities of later times.

The first water. - how much it means! Seven tenths of man himself is water. Seven tenths of the human race rained down but vesterday! It is much more probable that Alexander will flow out of a bung-hole than that any part of his remains will ever stop one. Our life is indeed a vapor, a breath, a little moisture condensed upon the pane. We carry ourselves as in a phial. Cleave the flesh, and how quickly we spill out! Man begins as a fish, and he swims in a sea of vital fluids as long as his life lasts. His first food is milk; so is his last and all between. He can taste and assimilate and absorb nothing but liquids. The same is true throughout all organic nature. 'T is water-power that makes every wheel move. Without this great solvent, there is no life. I admire immensely this line of Walt Whitman's: —

"The slumbering and liquid trees."

The tree and its fruit are like a sponge which the rains have filled. Through them and through all living bodies there goes on the commerce of vital growth, tiny vessels, fleets and succession of fleets, laden with material bound for distant shores, to

build up, and repair, and restore the waste of the physical frame.

Then the rain means relaxation; the tension in Nature and in all her creatures is lessened. The trees drop their leaves, or let go their ripened fruit. The tree itself will fall in a still, damp day, when but yesterday it withstood a gale of wind. A moist south wind penetrates even the mind and makes its grasp less tenacious. It ought to take less to kill a man on a rainy day than on a clear. The direct support of the sun is withdrawn; life is under a cloud; a masculine mood gives place to something like a feminine. In this sense, rain is the grief, the weeping of Nature, the relief of a burdened or agonized heart. But tears from Nature's eyelids are always remedial and prepare the way for brighter, purer skies.

I think rain is as necessary to the mind as to vegetation. Who does not suffer in his spirit in a drought and feel restless and unsatisfied? My very thoughts become thirsty and crave the moisture. It is hard work to be generous, or neighborly, or patriotic in a dry time, and as for growing in any of the finer graces or virtues, who can do it? One's very manhood shrinks, and, if he is ever capable of a mean act or of narrow views, it is then.

Oh, the terrible drought! When the sky turns to brass; when the clouds are like withered leaves; when the sun sucks the earth's blood like a vampire;

when rivers shrink, streams fail, springs perish; when the grass whitens and crackles under your feet: when the turf turns to dust; when the fields are like tinder; when the air is the breath of an oven: when even the merciful dews are withheld. and the morning is no fresher than the evening; when the friendly road is a desert, and the green woods like a sick-chamber; when the sky becomes tarnished and opaque with dust and smoke; when the shingles on the houses curl up, the clapboards warp, the paint blisters, the joints open; when the cattle rove disconsolate and the hive-bee comes home empty; when the earth gapes and all nature looks widowed, and deserted, and heart-broken, - in such a time, what thing that has life does not sympathize and suffer with the general distress?

The drought of the summer and early fall of 1876 was one of those severe stresses of weather that make the oldest inhabitant search his memory for a parallel. For nearly three months there was no rain to wet the ground. Large forest trees withered and cast their leaves. In spots, the mountains looked as if they had been scorched by fire. The salt seawater came up the Hudson ninety miles, when ordinarily it scarcely comes forty. Toward the last, the capacity of the atmosphere to absorb and dissipate the smoke was exhausted, and innumerable fires in forests and peat-swamps made the days and the weeks — not blue, but a dirty yellowish white.

There was not enough moisture in the air to take the sting out of the smoke, and it smarted the nose. The sun was red and dim even at midday, and at his rising and setting he was as harmless to the eve as a crimson shield or a painted moon. The meteorological conditions seemed the farthest possible remove from those that produce rain, or even dew. Every sign was negatived. Some malevolent spirit seemed abroad in the air, that rendered abortive every effort of the gentler divinities to send succor, The clouds would gather back in the mountains, the thunder would growl, the tall masses would rise up and advance threateningly, then suddenly cower, their strength and purpose ooze away; they flattened out; the hot, parched breath of the earth smote them; the dark, heavy masses were re-resolved into thin vapor, and the sky came through where but a few moments before there had appeared to be deep behind deep of water-logged clouds. Sometimes a cloud would pass by, and one could see trailing beneath and behind it a sheet of rain, like something let down that did not quite touch the earth, the hot air vaporizing the drops before they reached the ground.

Two or three times the wind got in the south, and those low, dun-colored clouds that are nothing but harmless fog came hurrying up and covered the sky, and city folk and women folk said the rain was at last near. But the wise ones knew better. The

clouds had no backing, the clear sky was just behind them; they were only the nightcap of the south wind, which the sun burnt up before ten o'clock.

Every storm has a foundation that is deeply and surely laid, and those shallow surface-clouds that have no root in the depths of the sky deceive none but the unwary.

At other times, when the clouds were not reabsorbed by the sky and rain seemed imminent, they would suddenly undergo a change that looked like curdling, and when clouds do that no rain need be expected. Time and again I saw their continuity broken up, saw them separate into small masses,—in fact saw a process of disintegration and disorganization going on, and my hope of rain was over for that day. Vast spaces would be affected suddenly; it was like a stroke of paralysis: motion was retarded, the breeze died down, the thunder ceased, and the storm was blighted on the very threshold of success.

I suppose there is some compensation in a drought; Nature doubtless profits by it in some way. It is a good time to thin out her garden, and give the law of the survival of the fittest a chance to come into play. How the big trees and big plants do rob the little ones! there is not drink enough to go around, and the strongest will have what there is. It is a rest to vegetation, too, a kind of torrid winter that is followed by a fresh awakening. Every tree and

plant learns a lesson from it, learns to shoot its roots down deep into the perennial supplies of moisture and life.

But when the rain does come, the warm, sun-distilled rain; the far-traveling, vapor-born rain; the impartial, undiscriminating, unstinted rain; equable, bounteous, myriad-eyed, searching out every plant and every spear of grass, finding every hidden thing that needs water, falling upon the just and upon the unjust, sponging off every leaf of every tree in the forest and every growth in the fields; music to the ear, a perfume to the smell, an enchantment to the eye; healing the earth, cleansing the air, renewing the fountains; honey to the bee, manna to the herds, and life to all creatures, — what spectacle so fills the heart? "Rain, rain, O dear Zeus, down on the plowed fields of the Athenians, and on the plains."

There is a fine sibilant chorus audible in the sod, and in the dust of the road, and in the porous plowed fields. Every grain of soil and every root and rootlet purrs in satisfaction, Because something more than water comes down when it rains; you cannot produce this effect by simple water; the good-will of the elements, the consent and approbation of all the skyey influences, come down; the harmony, the adjustment, the perfect understanding of the soil beneath and the air that swims above, are implied in the marvelous benefaction of the rain. The earth

is ready; the moist winds have wooed it and prepared it, the electrical conditions are as they should be, and there are love and passion in the surrender of the summer clouds. How the drops are absorbed into the ground! You cannot, I say, succeed like this with your hose or sprinkling-pot. There is no ardor or electricity in the drops, no ammonia, or ozone, or other nameless properties borrowed from the air.

Then one has not the gentleness and patience of Nature; we puddle the ground in our hurry, we seal it up and exclude the air, and the plants are worse off than before. When the sky is overcast and it is getting ready to rain, the moisture rises in the ground, the earth opens her pores and seconds the desire of the clouds.

Indeed, I have found there is but little virtue in a sprinkling-pot after the drought has reached a certain pitch. The soil will not absorb the water. 'Tis like throwing it on a hot stove. I once concentrated my efforts upon a single hill of corn and deluged it with water night and morning for several days, yet its leaves curled up and the ears failed the same as the rest. Something may be done, without doubt, if one begins in time, but the relief seems strangely inadequate to the means often used. In rainless countries good crops are produced by irrigation, but here man can imitate in a measure the patience and bounty of Nature, and, with night to aid him, cat

make his thirsty fields drink, or rather can pour the water down their throats.

I have said the rain is as necessary to man as to vegetation. You cannot have a rank, sappy race, like the English or the German, without plenty of moisture in the air and in the soil. Good viscera and an abundance of blood are closely related to meteorological conditions, unction of character, and a flow of animal spirits, too; and I suspect that much of the dry and rarefied humor of New England, as well as the thin and sharp physiognomies, are climatic results. We have rain enough, but not equability of temperature or moisture, - no steady, abundant supply of humidity in the air. In places in Great Britain it is said to rain on an average three days out of four the year through; yet the depth of rainfall is no greater than in this country, where it rains but the one day out of four. John Bull shows those three rainy days both in his temper and in his bodilv habit; he is better for them in many ways, and perhaps not quite so good in a few others: they make him juicy and vascular, and maybe a little opaque; but we in this country could well afford a few of his negative qualities for the sake of his stomach and full-bloodedness.

We have such faith in the virtue of the rain, and in the capacity of the clouds to harbor and transport material good, that we more than half believe the stories of the strange and anomalous things that have

fallen in showers. There is no credible report that it has ever yet rained pitchforks, but many other curious things have fallen. Fish, flesh, and fowl, and substances that were neither, have been picked up by veracious people after a storm. Manna, blood, and honey, frogs, newts, and fish-worms, are among the curious things the clouds are supposed to yield. If the clouds scooped up their water as the flying express train does, these phenomena could be easier explained. I myself have seen curious things. Riding along the road one day on the heels of a violent summer tempest, I saw the ground swarming with minute hopping creatures. I got out and captured my hands full. They proved to be tree-toads, many of them no larger than crickets, and none of them larger than a bumblebee. There seemed to be thousands of them. The mark of the tree-toad was the round, flattened ends of their toes. I took some of them home, but they died the next day. Where did they come from? I imagined the violent wind swept them off the trees in the woods to windward of the road. But this is only a guess; maybe they crept out of the ground, or from under the wall near by, and were out to wet their jackets.

I have never yet heard of a frog coming down chimney in a shower. Some circumstantial evidence may be pretty conclusive, Thoreau says, as when you find a trout in the milk; and if you find a frog or toad behind the fire-board immediately

after a shower, you may well ask him to explain himself.

When I was a boy I used to wonder if the clouds were hollow and carried their water as in a cask, because had we not often heard of clouds bursting and producing havoc and ruin beneath them? The hoops gave way, perhaps, or the head was pressed out. Goethe says that when the barometer rises, the clouds are spun off from the top downward like a distaff of flax; but this is more truly the process when it rains. When fair weather is in the ascendant, the clouds are simply reabsorbed by the air; but when it rains, they are spun off into something more compact: 't is like the threads that issue from the mass of flax or roll of wool, only here there are innumerable threads, and the fingers that hold them never tire. The great spinning-wheel, too, what a humming it makes at times, and how the footsteps of the invisible spinner resound through the cloud-pillared chambers!

The clouds are thus literally spun up into water; and were they not constantly recruited from the atmosphere as the storm-centre travels along, — was new wool not forthcoming from the white sheep and the black sheep that the winds herd at every point, — all rains would be brief and local; the storm would quickly exhaust itself, as we sometimes see a thunder-cloud do in summer. A storm will originate in the far West or Southwest — those hatching-

places of all our storms — and travel across the continent, and across the Atlantic to Europe, pouring down incalculable quantities of rain as it progresses and recruiting as it wastes. It is a moving vortex, into which the outlying moisture of the atmosphere is being constantly drawn and precipitated. It is not properly the storm that travels, but the low pressure, the storm impulse, the meteorological magnet that makes the storm wherever its presence may be. The clouds are not watering-carts, that are driven all the way from Arizona or Colorado to Europe, but growths, developments that spring up as the Storm-deity moves his wand across the land. In advance of the storm, you may often see the clouds grow; the condensation of the moisture into vapor is a visible process; slender, spiculæ-like clouds expand, deepen, and lengthen; in the rear of the low pressure, the reverse process, or the wasting of the clouds, may be witnessed. In summer, the recruiting of a thunder-storm is often very marked. I have seen the clouds file as straight across the sky toward a growing storm or thunder-head in the horizon as soldiers hastening to the point of attack or defense. They would grow more and more black and threatening as they advanced, and actually seemed to be driven by more urgent winds than certain other clouds. They were, no doubt, more in the line of the storm influence.

All our general storms are cyclonic in their char-

acter, that is, rotary and progressive. Their type may be seen in every little whirlpool that goes down the swollen current of the river; and in our hemisphere they revolve in the same direction. namely, from right to left, or in opposition to the hands of a watch. When the water finds an outlet through the bottom of a dam, a suction or whirling vortex is developed that generally goes round in the same direction. A morning-glory or a hop-vine or a pole-bean winds around its support in the same course, and cannot be made to wind in any other. I am aware there are some perverse climbers among the plants that persist in going around the pole in the other direction. In the southern hemisphere the cyclone revolves in the other direction, or from left to right. How do they revolve at the equator, then? They do not revolve at all. This is the point of zero, and cyclones are never formed nearer than the third parallel of latitude. Whether hop-vines also refuse to wind about the pole there I am unable to say.

All our cyclones originate in the far Southwest and travel northeast. Why did we wait for the Weather Bureau to tell us this fact? Do not all the filmy, hazy, cirrus and cirro-stratus clouds first appear from the general direction of the sunset? Who ever saw them pushing their opaque filaments over the sky from the east or north? Yet do we not have "northeasters" both winter and summer?

True, but the storm does not come from that direction. In such a case we get that segment of the cyclonic whirl. A northeaster in one place may be an easter, a norther, or a souther in some other locality. See through those drifting, drenching clouds that come hurrying out of the northeast, and there are the boss-clouds above them, the great captains themselves, moving serenely on in the opposite direction.

Electricity is, of course, an important agent in storms. It is the great organizer and ring-master. How a clap of thunder will shake down the rain! It gives the clouds a smart rap; it jostles the vapor so that the particles fall together more quickly; it makes the drops let go in double and treble ranks. Nature likes to be helped in that way, — likes to have the water agitated when she is freezing it or heating it, and the clouds smitten when she is compressing them into rain. So does a shock of surprise quicken the pulse in man, and in the crisis of action help him to a decision.

What a spur and impulse the summer shower is! How its coming quickens and hurries up the slow, jogging country life! The traveler along the dusty road arouses from his reverie at the warning rumble behind the hills; the children hasten from the field or from the school; the farmer steps lively and thinks fast. In the hay-field, at the first signal-gun of the elements, what a commotion! How the horse-

rake rattles, how the pitchforks fly, how the white sleeves play and twinkle in the sun or against the dark background of the coming storm! One man does the work of two or three. It is a race with the elements, and the hay-makers do not like to be beaten. The rain that is life to the grass when growing is poison to it after it becomes cured hay, and it must be got under shelter, or put up into snug cocks, if possible, before the storm overtakes it.

The rains of winter are cold and odorless. One prefers the snow, which warms and covers; but can there be anything more delicious than the first warm April rain, - the first offering of the softened and pacified clouds of spring? The weather has been dry, perhaps, for two or three weeks; we have had a touch of the dreaded drought thus early; the roads are dusty, the streams again shrunken, and forest fires send up columns of smoke on every hand; the frost has all been out of the ground many days; the snow has all disappeared from the mountains; the sun is warm, but the grass does not grow, nor the early seeds come up. The quickening spirit of the rain is needed. Presently the wind gets in the southwest, and, late in the day, we have our first vernal shower, gentle and leisurely, but every drop condensed from warm tropic vapors and charged with the very essence of spring. Then what a perfume fills the air! One's nostrils are not half large enough to take it in. The smoke, washed by the

rain, becomes the breath of woods, and the soil and the newly plowed fields give out an odor that dilates the sense. How the buds of the trees swell, how the grass greens, how the birds rejoice! Hear the robins laugh! This will bring out the worms and the insects, and start the foliage of the trees. A summer shower has more copiousness and power, but this has the charm of freshness and of all first things.

The laws of storms, up to a certain point, have come to be pretty well understood, but there is yet no science of the weather, any more than there is of human nature. There is about as much room for speculation in the one case as in the other. The causes and agencies are subtle and obscure, and we shall, perhaps, have the metaphysics of the subject before we have the physics.

But as there are persons who can read human nature pretty well, so there are those who can read the weather.

It is a masculine subject, and quite beyond the province of woman. Ask those who spend their time in the open air,—the farmer, the sailor, the soldier, the walker; ask the birds, the beasts, the treetoads: they know, if they will only tell. The farmer diagnoses the weather daily, as the doctor a patient: he feels the pulse of the wind; he knows when the clouds have a scurfy tongue, or when the cuticle of the day is feverish and dry, or soft and moist.

Certain days he calls "weather-breeders," and they are usually the fairest days in the calendar, - all sun and sky. They are too fair; they are suspiciously so. They come in the fall and spring, and always mean mischief. When a day of almost unnatural brightness and clearness in either of these seasons follows immediately after a storm, it is a sure indication that another storm follows close. follows to-morrow. In keeping with this fact is the rule of the barometer, that, if the mercury suddenly rises very high, the fair weather will not last. It is a high peak that indicates a corresponding depression close at hand. I observed one of these angelic mischief-makers during the past October. The second day after a heavy fall of rain was the fairest of the fair, - not a speck or film in all the round of the sky. Where have all the clouds and vapors gone to so suddenly? was my mute inquiry, but I suspected they were plotting together somewhere behind the horizon. The sky was a deep ultramarine blue; the air so transparent that distant objects seemed near, and the afternoon shadows were sharp and clear. At night the stars were unusually numerous and bright (a sure sign of an approaching storm). The sky was laid bare, as the tidal wave empties the shore of its water before it heaps it up upon it. A violent storm of wind and rain the next day followed this delusive brightness. So the weather, like human nature, may be suspiciously transparent. A

saintly day may undo you. A few clouds do not mean rain; but when there are absolutely none, when even the haze and filmy vapors are suppressed or held back, then beware.

Then the weather-wise know there are two kinds of clouds, rain-clouds and wind-clouds, and that the latter are always the most portentous. In summer they are black as night; they look as if they would blot out the very earth. They raise a great dust, and set things flying and slamming for a moment, and that is all. They are the veritable wind-bags of Æolus. There is something in the look of rainclouds that is unmistakable, — a firm, gray, tightly woven look that makes you remember your umbrella. Not too high nor too low, not black nor blue, but the form and hue of wet, unbleached linen. You see the river water in them; they are heavy-laden, and move slow. Sometimes they develop what are called "mares' tails," - small cloud-forms here and there against a heavy background, that look like the stroke of a brush, or the streaming tail of a charger. Sometimes a few under-clouds will be combed and groomed by the winds or other meteoric agencies at work, as if for a race. I have seen coming storms develop well-defined vertebræ, - a long backbone of cloud, with the articulations and processes clearly marked. Any of these forms, changing, growing, denote rain, because they show unusual agencies at work. The storm is brewing and fermenting. "See

those cowlicks," said an old farmer, pointing to certain patches on the clouds; "they mean rain." Another time, he said the clouds were "making bag," had growing udders, and that it would rain before night, as it did. This reminded me that the Orientals speak of the clouds as cows which the winds herd and milk.

In the winter, we see the sun wading in snow. The morning has perhaps been clear, but in the afternoon a bank of gray filmy or cirrus cloud meets him in the west, and he sinks deeper and deeper into it, till, at his going down, his muffled beams are entirely hidden. Then, on the morrow, not

"Announced by all the trumpets of the sky,"

but silent as night, the white legions are here.

The old signs seldom fail, — a red and angry sunrise, or flushed clouds at evening. Many a hope of rain have I seen dashed by a painted sky at sunset. There is truth in the old couplet, too: —

"If it rains before seven, It will clear before eleven."

An old Indian had a sign for winter: "If the wind blows the snow off the trees, the next storm will be snow; if it rains off, the next storm will be rain."

Morning rains are usually short-lived Better wait till ten o'clock.

When the clouds are chilled, they turn blue and rise up.

When the fog leaves the mountains, reaching upward, as if afraid of being left behind, the fair weather is near.

Shoddy clouds are of little account, and soon fall to pieces. Have your clouds show a good strong fibre, and have them lined, — not with silver, but with other clouds of a finer texture, — and have them wadded. It wants two or three thicknesses to get up a good rain. Especially, unless you have that cloud-mother, that dim, filmy, nebulous mass that has its root in the higher regions of the air, and is the source and backing of all storms, your rain will be light indeed.

I fear my reader's jacket is not thoroughly soaked yet. I must give him a final dash, a "clear-up" shower.

We were encamping in the primitive woods, by a little trout lake which the mountain carried high on his hip, like a soldier's canteen. There were wives in the party, curious to know what the lure was that annually drew their husbands to the woods. That magical writing on a trout's back they would fain decipher, little heeding the warning that what is written here is not given to woman to know.

Our only tent or roof was the sheltering arms of the great birches and maples. What was sauce for

the gander should be sauce for the goose, too, so the goose insisted.

A luxurious couch of boughs upon springing poles was prepared, and the night should be not less welcome than the day, which had indeed been idyllic. (A trout dinner had been served by a little spring brook, upon an improvised table covered with moss and decked with ferns, with strawberries from a near clearing.)

At twilight there was an ominous rumble behind the mountains. I was on the lake, and could see what was brewing there in the west.

As darkness came on, the rumbling increased, and the mountains and the woods and the still air were such good conductors of sound that the ear was vividly impressed. One seemed to feel the enormous convolutions of the clouds in the deep and jarring tones of the thunder. The coming of night in the woods is alone peculiarly impressive, and it is doubly so when out of the darkness comes such a voice as this. But we fed the fire the more industriously. and piled the logs high, and kept the gathering gloom at bay by as large a circle of light as we could command. The lake was a pool of ink and as still as if congealed; not a movement or a sound, save now and then a terrific volley from the cloud batteries now fast approaching. By nine o'clock little puffs of wind began to steal through the woods and tease and toy with our fire. Shortly after, an enor-

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mous electric bombshell exploded in the treetops over our heads, and the ball was fairly opened. Then followed three hours, with only two brief intermissions, of as lively elemental music and as copious an outpouring of rain as it was ever my lot to witness. It was a regular meteorological carnival. and the revelers were drunk with the wild sport. The apparent nearness of the clouds and the electric explosions was something remarkable. Every discharge seemed to be in the branches immediately overhead and made us involuntarily cower, as if the next moment the great limbs of the trees, or the trees themselves, would come crashing down. The mountain upon which we were encamped appeared to be the focus of three distinct but converging storms. The last two seemed to come into collision immediately over our camp-fire, and to contend for the right of way, until the heavens were ready to fall and both antagonists were literally spent. We stood in groups about the struggling fire, and when the cannonade became too terrible would withdraw into the cover of the darkness, as if to be a less conspicuous mark for the bolts; or did we fear that the fire, with its currents, might attract the lightning? At any rate, some other spot than the one where we happened to be standing seemed desirable when those onsets of the contending elements were the most furious. Something that one could not catch in his hat was liable to drop almost anywhere any minute. The alarm

and consternation of the wives communicated itself to the husbands, and they looked solemn and concerned. The air was filled with falling water. The sound upon the myriad leaves and branches was like the roar of a cataract. We put our backs up against the great trees, only to catch a brook on our shoulders or in the backs of our necks. Still the storm waxed. The fire was beaten down lower and lower. It surrendered one post after another, like a besieged city, and finally made only a feeble resistance from beneath a pile of charred logs and branches in the centre. Our garments yielded to the encroachments of the rain in about the same manner. I believe my necktie held out the longest, and carried a few dry threads safely through. Our cunningly devised and bedecked table, which the housekeepers had so doted on and which was ready spread for breakfast, was washed as by the hose of a fire-engine, - only the bare poles remained, - and the couch of springing boughs, that was to make Sleep jealous and o'erfond, became a bed fit only for amphibians. Still the loosened floods came down; still the great cloudmortars bellowed and exploded their missiles in the treetops above us. But all nervousness finally passed away, and we became dogged and resigned. Our minds became water-soaked; our thoughts were heavy and bedraggled. We were past the point of joking at one another's expense. The witticisms failed to kindle, - indeed, failed to go, like the

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matches in our pockets. About midnight the rain slackened, and by one o'clock ceased entirely. How the rest of the night was passed beneath the dripping trees and upon the saturated ground, I have only the dimmest remembrance. All is watery and opaque; the fog settles down and obscures the scene. But I suspect I tried the "wet pack" without being a convert to hydropathy. When the morning dawned, the wives begged to be taken home, convinced that the charms of camping-out were greatly overrated. We, who had tasted this cup before, knew they had read at least a part of the legend of the wary trout without knowing it.

V

SPECKLED TROUT

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THE legend of the wary trout, hinted at in the last sketch, is to be further illustrated in this and some following chapters. We shall get at more of the meaning of those dark water-lines, and I hope, also, not entirely miss the significance of the gold and silver spots and the glancing iridescent hues. The trout is dark and obscure above, but behind this foil there are wondrous tints that reward the believing eye. Those who seek him in his wild remote haunts are quite sure to get the full force of the sombre and uninviting aspects,—the wet, the cold, the toil, the broken rest, and the huge, savage, uncompromising nature,—but the true angler sees farther than these, and is never thwarted of his legitimate reward by them.

I have been a seeker of trout from my boyhood, and on all the expeditions in which this fish has been the ostensible purpose I have brought home more game than my creel showed. In fact, in my mature years I find I got more of nature into me, more of the woods, the wild, nearer to bird and

beast, while threading my native streams for trout than in almost any other way. It furnished a good excuse to go forth; it pitched one in the right key; it sent one through the fat and marrowy places of field and wood. Then the fisherman has a harmless, preoccupied look; he is a kind of vagrant that nothing fears. He blends himself with the trees and the shadows. All his approaches are gentle and indirect. He times himself to the meandering, soliloquizing stream; its impulse bears him along. At the foot of the waterfall he sits sequestered and hidden in its volume of sound. The birds know he has no designs upon them, and the animals see that his mind is in the creek. His enthusiasm anneals him, and makes him pliable to the scenes and influences he moves among.

Then what acquaintance he makes with the stream! He addresses himself to it as a lover to his mistress; he wooes it and stays with it till he knows its most hidden secrets. It runs through his thoughts not less than through its banks there; he feels the fret and thrust of every bar and boulder. Where it deepens, his purpose deepens; where it is shallow, he is indifferent. He knows how to interpret its every glance and dimple; its beauty haunts him for days.

I am sure I run no risk of overpraising the charm and attractiveness of a well-fed trout stream, every drop of water in it as bright and pure as if the

nymphs had brought it all the way from its source in crystal goblets, and as cool as if it had been hatched beneath a glacier. When the heated and soiled and jaded refugee from the city first sees one, he feels as if he would like to turn it into his bosom and let it flow through him a few hours, it suggests such healing freshness and newness. How his roily thoughts would run clear; how the sediment would go downstream! Could he ever have an impure or an unwholesome wish afterward? The next best thing he can do is to tramp along its banks and surrender himself to its influence. If he reads it intently enough, he will, in a measure, be taking it into his mind and heart, and experiencing its salutary ministrations.

Trout streams coursed through every valley my boyhood knew. I crossed them, and was often lured and detained by them, on my way to and from school. We bathed in them during the long summer noons, and felt for the trout under their banks. A holiday was a holiday indeed that brought permission to go fishing over on Rose's Brook, or up Hardscrabble, or in Meeker's Hollow; all-day trips, from morning till night, through meadows and pastures and beechen woods, wherever the shy, limpid stream led. What an appetite it developed! a hunger that was fierce and aboriginal, and that the wild strawberries we plucked as we crossed the hill teased rather than allayed. When but a few hours could

be had, gained perhaps by doing some piece of work about the farm or garden in half the allotted time, the little creek that headed in the paternal domain was handy; when half a day was at one's disposal, there were the hemlocks, less than a mile distant, with their loitering, meditative, log-impeded stream and their dusky, fragrant depths. Alert and wideeyed, one picked his way along, startled now and then by the sudden bursting-up of the partridge, or by the whistling wings of the "dropping snipe," pressing through the brush and the briers, or finding an easy passage over the trunk of a prostrate tree, carefully letting his hook down through some tangle into a still pool, or standing in some high, sombre avenue and watching his line float in and out amid the moss-covered boulders. In my first essayings I used to go to the edge of these hemlocks, seldom dipping into them beyond the first pool where the stream swept under the roots of two large trees. From this point I could look back into the sunlit fields where the cattle were grazing; beyond, all was gloom and mystery; the trout were black, and to my young imagination the silence and the shadows were blacker. But gradually I vielded to the fascination and penetrated the woods farther and farther on each expedition, till the heart of the mystery was fairly plucked out. During the second or third year of my piscatorial experience I went through them, and through the pasture and meadow beyond, and

through another strip of hemlocks, to where the little stream joined the main creek of the valley.

In June, when my trout fever ran pretty high, and an auspicious day arrived, I would make a trip to a stream a couple of miles distant, that came down out of a comparatively new settlement. It was a rapid mountain brook presenting many difficult problems to the young angler, but a very enticing stream for all that, with its two saw-mill dams, its pretty cascades, its high, shelving rocks sheltering the mossy nests of the phæbe-bird, and its general wild and forbidding aspects.

But a meadow brook was always a favorite. The trout like meadows; doubtless their food is more abundant there, and, usually, the good hiding-places are more numerous. As soon as you strike a meadow the character of the creek changes: it goes slower and lies deeper; it tarries to enjoy the high, cool banks and to half hide beneath them; it loves the willows, or rather the willows love it and shelter it from the sun; its spring runs are kept cool by the overhanging grass, and the heavy turf that faces its open banks is not cut away by the sharp hoofs of the grazing cattle. Then there are the bobolinks and the starlings and the meadowlarks, always interested spectators of the angler; there are also the marsh marigolds, the buttercups, or the spotted lilies, and the good angler is always an interested spectator of them. In fact, the patches of meadow land that

lie in the angler's course are like the happy experiences in his own life, or like the fine passages in the poem he is reading; the pasture oftener contains the shallow and monotonous places. In the small streams the cattle scare the fish, and soil their element and break down their retreats under the banks. Woodland alternates the best with meadow: the creek loves to burrow under the roots of a great tree, to scoop out a pool after leaping over the prostrate trunk of one, and to pause at the foot of a ledge of moss-covered rocks, with ice-cold water dripping down. How straight the current goes for the rock! Note its corrugated, muscular appearance; it strikes and glances off, but accumulates, deepens with well-defined eddies above and to one side; on the edge of these the trout lurk and spring upon their prev.

The angler learns that it is generally some obstacle or hindrance that makes a deep place in the creek, as in a brave life; and his ideal brook is one that lies in deep, well-defined banks, yet makes many a shift from right to left, meets with many rebuffs and adventures, hurled back upon itself by rocks, waylaid by snags and trees, tripped up by precipices, but sooner or later reposing under meadow banks, deepening and eddying beneath bridges, or prosperous and strong in some level stretch of cultivated land with great elms shading it here and there.

But I early learned that from almost any stream

in a trout country the true angler could take trout, and that the great secret was this, that, whatever bait you used, worm, grasshopper, grub, or fly, there was one thing you must always put upon your hook, namely, your heart: when you bait your hook with your heart the fish always bite; they will jump clear from the water after it; they will dispute with each other over it; it is a morsel they love above everything else. With such bait I have seen the born angler (my grandfather was one) take a noble string of trout from the most unpromising waters, and on the most unpromising day. He used his hook so covly and tenderly, he approached the fish with such address and insinuation, he divined the exact spot where they lay: if they were not eager, he humored them and seemed to steal by them; if they were playful and coquettish, he would suit his mood to theirs; if they were frank and sincere, he met them halfway; he was so patient and considerate, so entirely devoted to pleasing the critical trout, and so successful in his efforts, - surely his heart was upon his hook, and it was a tender, unctuous heart, too, as that of every angler is. How nicely he would measure the distance! how dexterously he would avoid an overhanging limb or bush and drop the line exactly in the right spot! Of course there was a pulse of feeling and sympathy to the extremity of that line. If your heart is a stone, however, or an empty husk, there is no use to put it upon your hook; it

will not tempt the fish; the bait must be quick and fresh. Indeed, a certain quality of youth is indispensable to the successful angler, a certain unworldliness and readiness to invest yourself in an enterprise that does n't pay in the current coin. Not only is the angler, like the poet, born and not made, as Walton says, but there is a deal of the poet in him, and he is to be judged no more harshly; he is the victim of his genius: those wild streams, how they haunt him! he will play truant to dull care, and flee to them; their waters impart somewhat of their own perpetual youth to him. My grandfather when he was eighty years old would take down his pole as eagerly as any boy, and step off with wonderful elasticity toward the beloved streams; it used to try my young legs a good deal to follow him, specially on the return trip. And no poet was ever more innocent of worldly success or ambition. For, to paraphrase Tennyson, -

"Lusty trout to him were scrip and share, And babbling waters more than cent for cent."

He laid up treasures, but they were not in this world. In fact, though the kindest of husbands, I fear he was not what the country people call a "good provider," except in providing trout in their season, though it is doubtful if there was always fat in the house to fry them in. But he could tell you they were worse off than that at Valley Forge, and that

trout, or any other fish, were good roasted in the ashes under the coals. He had the Walton requisite of loving quietness and contemplation, and was devout withal. Indeed, in many ways he was akin to those Galilee fishermen who were called to be fishers of men. How he read the Book and pored over it, even at times, I suspect, nodding over it, and laying it down only to take up his rod, over which, unless the trout were very dilatory and the journey very fatiguing, he never nodded!

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The Delaware is one of our minor rivers, but it is a stream beloved of the trout. Nearly all its remote branches head in mountain springs, and its collected waters, even when warmed by the summer sun, are as sweet and wholesome as dew swept from the grass. The Hudson wins from it two streams that are fathered by the mountains from whose loins most of its beginnings issue, namely, the Rondout and the Esopus. These swell a more illustrious current than the Delaware, but the Rondout, one of the finest trout streams in the world, makes an uncanny alliance before it reaches its destination, namely, with the malarious Wallkill.

In the same nest of mountains from which they start are born the Neversink and the Beaverkill, streams of wondrous beauty that flow south and west into the Delaware. From my native hills I

could catch glimpses of the mountains in whose laps these creeks were cradled, but it was not till after many years, and after dwelling in a country where trout are not found, that I returned to pay my respects to them as an angler.

My first acquaintance with the Neversink was made in company with some friends in 1869. We passed up the valley of the Big Ingin, marveling at its copious ice-cold springs, and its immense sweep of heavy-timbered mountain-sides. Crossing the range at its head, we struck the Neversink quite unexpectedly about the middle of the afternoon, at a point where it was a good-sized trout stream. It proved to be one of those black mountain brooks born of innumerable ice-cold springs, nourished in the shade, and shod, as it were, with thick-matted moss, that every camper-out remembers. The fish are as black as the stream and very wild. They dart from beneath the fringed rocks, or dive with the hook into the dusky depths, — an integral part of the silence and the shadows. The spell of the moss is over all. The fisherman's tread is noiseless, as he leaps from stone to stone and from ledge to ledge along the bed of the stream. How cool it is! He looks up the dark, silent defile, hears the solitary voice of the water, sees the decayed trunks of fallen trees bridging the stream, and all he has dreamed, when a boy, of the haunts of beasts of prey—the crouching feline tribes, especially if it

be near nightfall and the gloom already deepening in the woods—comes freshly to mind, and he presses on, wary and alert, and speaking to his companions in low tones.

After an hour or so the trout became less abundant, and with nearly a hundred of the black sprites in our baskets we turned back. Here and there I saw the abandoned nests of the pigeons, sometimes half a dozen in one tree. In a yellow birch which the floods had uprooted, a number of nests were still in place, little shelves or platforms of twigs loosely arranged, and affording little or no protection to the eggs or the young birds against inclement weather.

Before we had reached our companions the rain set in again and forced us to take shelter under a balsam. When it slackened we moved on and soon came up with Aaron, who had caught his first trout, and, considerably drenched, was making his way toward camp, which one of the party had gone forward to build. After traveling less than a mile, we saw a smoke struggling up through the dripping trees, and in a few moments were all standing round a blazing fire. But the rain now commenced again, and fairly poured down through the trees, rendering the prospect of cooking and eating our supper there in the woods, and of passing the night on the ground without tent or cover of any kind, rather disheartening. We had been told of a bark

shanty a couple of miles farther down the creek, and thitherward we speedily took up our line of march. When we were on the point of discontinuing the search, thinking we had been misinformed or had passed it by, we came in sight of a barkpeeling, in the midst of which a small log house lifted its naked rafters toward the now breaking sky. It had neither floor nor roof, and was less inviting on first sight than the open woods. But a board partition was still standing, out of which we built a rude porch on the east side of the house, large enough for us all to sleep under if well packed, and eat under if we stood up. There was plenty of well-seasoned timber lying about, and a fire was soon burning in front of our quarters that made the scene social and picturesque, especially when the frying-pans were brought into requisition, and the coffee, in charge of Aaron, who was an artist in this line, mingled its aroma with the wild-wood air. At dusk a balsam was felled, and the tips of the branches used to make a bed, which was more fragrant than soft; hemlock is better, because its needles are finer and its branches more elastic.

There was a spirt or two of rain during the night, but not enough to find out the leaks in our roof. It took the shower or series of showers of the next day to do that. They commenced about two o'clock in the afternoon. The forenoon had been fine, and we had brought into camp nearly three hundred trout;

but before they were half dressed, or the first panfuls fried, the rain set in. First came short, sharp dashes, then a gleam of treacherous sunshine, followed by more and heavier dashes. The wind was in the southwest, and to rain seemed the easiest thing in the world. From fitful dashes to a steady pour the transition was natural. We stood huddled together, stark and grim, under our cover, like hens under a cart. The fire fought bravely for a time, and retaliated with sparks and spiteful tongues of flame; but gradually its spirit was broken, only a heavy body of coal and half-consumed logs in the centre holding out against all odds. The simmering fish were soon floating about in a yellow liquid that did not look in the least appetizing. Point after point gave way in our cover, till standing between the drops was no longer possible. The water coursed down the underside of the boards, and dripped in our necks and formed puddles on our hat-brims. We shifted our guns and traps and viands, till there was no longer any choice of position, when the loaves and the fishes, the salt and the sugar, the pork and the butter, shared the same watery fate. The fire was gasping its last. Little rivulets coursed about it, and bore away the quenched but steaming coals on their bosoms. The spring run in the rear of our camp swelled so rapidly that part of the trout that had been hastily left lying on its banks again found themselves quite at home. For over two hours the

floods came down. About four o'clock Orville, who had not yet come from the day's sport, appeared. To say Orville was wet is not much; he was better than that,—he had been washed and rinsed in at least half a dozen waters, and the trout that he bore dangling at the end of a string hardly knew that they had been out of their proper element.

But he brought welcome news. He had been two or three miles down the creek, and had seen a log building, — whether house or stable he did not know, but it had the appearance of having a good roof, which was inducement enough for us instantly to leave our present quarters. Our course lay along an old wood-road, and much of the time we were to our knees in water. The woods were literally flooded everywhere. Every little rill and springlet ran like a mill-tail, while the main stream rushed and roared, foaming, leaping, lashing, its volume increased fifty-fold. The water was not roily, but of a rich coffee-color, from the leachings of the woods. No more trout for the next three days! we thought, as we looked upon the rampant stream.

After we had labored and floundered along for about an hour, the road turned to the left, and in a little stumpy clearing near the creek a gable uprose on our view. It did not prove to be just such a place as poets love to contemplate. It required a greater effort of the imagination than any of us were then capable of to believe it had ever been a

favorite resort of wood-nymphs or sylvan deities. It savored rather of the equine and the bovine. The bark-men had kept their teams there, horses on the one side and oxen on the other, and no Hercules had ever done duty in cleansing the stables. But there was a dry loft overhead with some straw, where we might get some sleep, in spite of the rain and the midges; a double layer of boards, standing at a very acute angle, would keep off the former, while the mingled refuse hav and muck beneath would nurse a smoke that would prove a thorough protection against the latter. And then, when Jim, the two-handed, mounting the trunk of a prostrate maple near by, had severed it thrice with easy and familiar stroke, and, rolling the logs in front of the shanty, had kindled a fire, which, getting the better of the dampness, soon cast a bright glow over all. shedding warmth and light even into the dingy stable, I consented to unsling my knapsack and accept the situation. The rain had ceased, and the sun shone out behind the woods. We had trout sufficient for present needs; and after my first meal in an ox-stall, I strolled out on the rude log bridge to watch the angry Neversink rush by. Its waters fell quite as rapidly as they rose, and before sundown it looked as if we might have fishing again on the morrow. We had better sleep that night than either night before, though there were two disturbing causes, - the smoke in the early part of

it, and the cold in the latter. The "no-see-ems" left in disgust; and, though disgusted myself, I swallowed the smoke as best I could, and hugged my pallet of straw the closer. But the day dawned bright, and a plunge in the Neversink set me all right again. The creek, to our surprise and gratification, was only a little higher than before the rain, and some of the finest trout we had yet seen we caught that morning near camp.

We tarried yet another day and night at the old stable, but taking our meals outside squatted on the ground, which had now become quite dry. Part of the day I spent strolling about the woods, looking up old acquaintances among the birds, and, as always, half expectant of making some new ones. Curiously enough, the most abundant species were among those I had found rare in most other localities, namely, the small water-wagtail, the mourning ground warbler, and the yellow-bellied woodpecker. The latter seems to be the prevailing woodpecker through the woods of this region.

That night the midges, those motes that sting, held high carnival. We learned afterward, in the settlement below and from the barkpeelers, that it was the worst night ever experienced in that valley. We had done no fishing during the day, but had anticipated some fine sport about sundown. Accordingly Aaron and I started off between six and seven o'clock, one going upstream and the other

down. The scene was charming. The sun shot up great spokes of light from behind the woods, and beauty, like a presence, pervaded the atmosphere. But torment, multiplied as the sands of the seashore, lurked in every tangle and thicket. In a thoughtless moment I removed my shoes and socks. and waded in the water to secure a fine trout that had accidentally slipped from my string and was helplessly floating with the current. This caused some delay and gave the gnats time to accumulate. Before I had got one foot half dressed I was enveloped in a black mist that settled upon my hands and neck and face, filling my ears with infinitesimal pipings and covering my flesh with infinitesimal bitings. I thought I should have to flee to the friendly fumes of the old stable, with "one stocking off and one stocking on;" but I got my shoe on at last, though not without many amusing interruptions and digressions.

In a few moments after this adventure I was in rapid retreat toward camp. Just as I reached the path leading from the shanty to the creek, my companion in the same ignoble flight reached it also, his hat broken and rumpled, and his sanguine countenance looking more sanguinary than I had ever before seen it, and his speech, also, in the highest degree inflammatory. His face and forehead were as blotched and swollen as if he had just run his head into a hornets' nest, and his manner as

precipitate as if the whole swarm was still at his back.

No smoke or smudge which we ourselves could endure was sufficient in the earlier part of that evening to prevent serious annoyance from the same cause; but later a respite was granted us.

About ten o'clock, as we stood round our campfire, we were startled by a brief but striking display of the aurora borealis. My imagination had already been excited by talk of legends and of weird shapes and appearances, and when, on looking up toward the sky, I saw those pale, phantasmal waves of magnetic light chasing each other across the little opening above our heads, and at first sight seeming barely to clear the treetops, I was as vividly impressed as if I had caught a glimpse of a veritable spectre of the Neversink. The sky shook and trembled like a great white curtain.

After we had climbed to our loft and had lain down to sleep, another adventure befell us. This time a new and uninviting customer appeared upon the scene, the *genius loci* of the old stable, namely, the "fretful porcupine." We had seen the marks and work of these animals about the shanty, and had been careful each night to hang cur traps, guns, etc., beyond their reach, but of the prickly night-walker himself we feared we should not get a view.

We had lain down some half hour, and I was just

cn the threshold of sleep, ready, as it were, to pass through the open door into the land of dreams, when I heard outside somewhere that curious sound, — a sound which I had heard every night I spent in these woods, not only on this but on former expeditions, and which I had settled in my mind as proceeding from the porcupine, since I knew the sounds our other common animals were likely to make, — a sound that might be either a gnawing on some hard, dry substance, or a grating of teeth, or a shrill grunting.

Orville heard it also, and, raising up on his elbow, asked, "What is that?"

- "What the hunters call a 'porcupig,'" said I.
- "Sure?"
- "Entirely so."
- "Why does he make that noise?"
- "It is a way he has of cursing our fire," I replied. "I heard him last night also."
- "Where do you suppose he is?" inquired my companion, showing a disposition to look him up.
- "Not far off, perhaps fifteen or twenty yards from our fire, where the shadows begin to deepen."

Orville slipped into his trousers, felt for my gun, and in a moment had disappeared down through the scuttle hole. I had no disposition to follow him, but was rather annoyed than otherwise at the disturbance. Getting the direction of the sound, he went picking his way over the rough, uneven ground,

and, when he got where the light failed him, poking every doubtful object with the end of his gun. Presently he poked a light gravish object, like a large round stone, which surprised him by moving off. On this hint he fired, making an incurable wound in the "porcupig," which, nevertheless, tried harder than ever to escape. I lay listening, when, close on the heels of the report of the gun, came excited shouts for a revolver. Snatching up my Smith and Wesson, I hastened, shoeless and hatless, to the scene of action, wondering what was up. I found my companion struggling to detain, with the end of the gun, an uncertain object that was trying to crawl off into the darkness. "Look out!" said Orville, as he saw my bare feet, "the quills are lying thick around here."

And so they were; he had blown or beaten them nearly all off the poor creature's back, and was in a fair way completely to disable my gun, the ramrod of which was already broken and splintered clubbing his victim. But a couple of shots from the revolver, sighted by a lighted match, at the head of the animal, quickly settled him.

He proved to be an unusually large Canada porcupine,—an old patriarch, gray and venerable with spines three inches long, and weighing, I should say, twenty pounds. The build of this animal is much like that of the woodchuck, that is, heavy and pouchy. The nose is blunter than that of the wood-

chuck, the limbs stronger, and the tail broader and heavier. Indeed, the latter appendage is quite clublike, and the animal can, no doubt, deal a smart blow with it. An old hunter with whom I talked thought it aided them in climbing. They are inveterate gnawers, and spend much of their time in trees gnawing the bark. In winter one will take up its abode in a hemlock, and continue there till the tree is quite denuded. The carcass emitted a peculiar, offensive odor, and, though very fat, was not in the least inviting as game. If it is part of the economy of nature for one animal to prev upon some other beneath it, then the poor devil has indeed a mouthful that makes a meal off the porcupine. Panthers and lynxes have essayed it, but have invariably left off at the first course, and have afterwards been found dead, or nearly so, with their heads puffed up like a pincushion, and the quills protruding on all sides. A dog that understands the business will manœuvre round the porcupine till he gets an opportunity to throw it over on its back, when he fastens on its quilless underbody. Aaron was puzzled to know how long-parted friends could embrace, when it was suggested that the quills could be depressed or elevated at pleasure.

The next morning boded rain; but we had become thoroughly sated with the delights of our present quarters, outside and in, and packed up our traps to leave. Before we had reached the clearing, three

miles below, the rain set in, keeping up a lazy monotonous drizzle till the afternoon.

The clearing was quite a recent one, made mostly by barkpeelers, who followed their calling in the mountains round about in summer, and worked in their shops making shingle in winter. The Biscuit Brook came in here from the west, — a fine, rapid trout stream six or eight miles in length, with plenty of deer in the mountains about its head. On its banks we found the house of an old woodman, to whom we had been directed for information about the section we proposed to traverse.

"Is the way very difficult," we inquired, "across from the Neversink into the head of the Beaver-kill?"

"Not to me; I could go it the darkest night ever was. And I can direct you so you can find the way without any trouble. You go down the Neversink about a mile, when you come to Highfall Brook, the first stream that comes down on the right. Follow up it to Jim Reed's shanty, about three miles. Then cross the stream, and on the left bank, pretty well up on the side of the mountain, you will find a wood-road, which was made by a fellow below here who stole some ash logs off the top of the ridge last winter and drew them out on the snow. When the road first begins to tilt over the mountain, strike down to your left, and you can reach the Beaverkill before sundown."

As it was then after two o'clock, and as the distance was six or eight of these terrible hunters' miles, we concluded to take a whole day to it, and wait till next morning. The Beaverkill flowed west, the Neversink south, and I had a mortal dread of getting entangled amid the mountains and valleys that lie in either angle.

Besides, I was glad of another and final opportunity to pay my respects to the finny tribes of the Neversink. At this point it was one of the finest trout streams I had ever beheld. It was so sparkling, its bed so free from sediment or impurities of any kind, that it had a new look, as if it had just come from the hand of its Creator. I tramped along its margin upward of a mile that afternoon, part of the time wading to my knees, and casting my hook, baited only with a trout's fin, to the opposite bank. Trout are real cannibals, and make no bones, and break none either, in lunching on each other. A friend of mine had several in his spring, when one day a large female trout gulped down one of her male friends, nearly one third her own size, and went around for two days with the tail of her liege lord protruding from her mouth! A fish's eye will do for bait, though the anal fin is better. One of the natives here told me that when he wished to catch large trout (and I judged he never fished for any other, — I never do), he used for bait the bullhead, or dart, a little fish an inch and a half or two inches

long, that rests on the pebbles near shore and darts quickly, when disturbed, from point to point. "Put that on your hook," said he, "and if there is a big fish in the creek, he is bound to have it." But the darts were not easily found; the big fish, I concluded, had cleaned them all out; and, then, it was easy enough to supply our wants with a fin.

Declining the hospitable offers of the settlers, we spread our blankets that night in a dilapidated shingle-shop on the banks of the Biscuit Brook, first flooring the damp ground with the new shingle that lay piled in one corner. The place had a great-throated chimney with a tremendous expanse of fire-place within, that cried "More!" at every morsel of wood we gave it.

But I must hasten over this part of the ground, nor let the delicious flavor of the milk we had that morning for breakfast, and that was so delectable after four days of fish, linger on my tongue; nor yet tarry to set down the talk of that honest, weatherworn passer-by who paused before our door, and every moment on the point of resuming his way, yet stood for an hour and recited his adventures hunting deer and bears on these mountains. Having replenished our stock of bread and salt pork at the house of one of the settlers, midday found us at Reed's shanty, — one of those temporary structures erected by the bark jobber to lodge and board his "hands" near their work. Jim not being at home,

we could gain no information from the "women folks" about the way, nor from the men who had just come in to dinner; so we pushed on, as near as we could, according to the instructions we had previously received. Crossing the creek, we forced our way up the side of the mountain, through a perfect cheval-de-frise of fallen and peeled hemlocks, and, entering the dense woods above, began to look anxiously about for the wood-road. My companions at first could see no trace of it; but knowing that a casual wood-road cut in winter, when there was likely to be two or three feet of snow on the ground, would present only the slightest indications to the eve in summer, I looked a little closer, and could make out a mark or two here and there. The larger trees had been avoided, and the axe used only on the small saplings and underbrush, which had been lopped off a couple of feet from the ground. By being constantly on the alert, we followed it till near the top of the mountain; but, when looking to see it "tilt" over the other side, it disappeared altogether. Some stumps of the black cherry were found, and a solitary pair of snow-shoes was hanging high and dry on a branch, but no further trace of human hands could we see. While we were resting here a couple of hermit thrushes, one of them with some sad defect in his vocal powers which barred him from uttering more than a few notes of his song, gave voice to the solitude of the place. This was the second instance

in which I have observed a song-bird with apparently some organic defect in its instrument. The other case was that of a bobolink, which, hover in mid-air and inflate its throat as it might, could only force out a few incoherent notes. But the bird in each case presented this striking contrast to human examples of the kind, that it was apparently just as proud of itself, and just as well satisfied with its performance, as were its more successful rivals.

After deliberating some time over a pocket compass which I carried, we decided upon our course, and held on to the west. The descent was very gradual. Traces of bear and deer were noted at different points, but not a live animal was seen.

About four o'clock we reached the bank of a stream flowing west. Hail to the Beaverkill! and we pushed on along its banks. The trout were pleaty, and rose quickly to the hook; but we held on our way, designing to go into camp about six o'clock. Many inviting places, first on one bank, then on the other, made us linger, till finally we reached a smooth, dry place overshadowed by balsam and hemlock, where the creek bent around a little flat, which was so entirely to our fancy that we unslung our knapsacks at once. While my companions were cutting wood and making other preparations for the night, it fell to my lot, as the most successful angler, to provide the trout for supper and breakfast. How shall I describe that wild.

beautiful stream, with features so like those of all other mountain streams? And yet, as I saw it in the deep twilight of those woods on that June afternoon, with its steady, even flow, and its tranquil, many-voiced murmur, it made an impression upon my mind distinct and peculiar, fraught in an eminent degree with the charm of seclusion and remoteness. The solitude was perfect, and I felt that strangeness and insignificance which the civilized man must always feel when opposing himself to such a vast scene of silence and wildness. The trout were quite black, like all wood trout, and took the bait eagerly. I followed the stream till the deepening shadows warned me to turn back. As I neared camp, the fire shone far through the trees, dispelling the gathering gloom, but blinding my eyes to all obstacles at my feet. I was seriously disturbed on arriving to find that one of my companions had cut an ugly gash in his shin with the axe while felling a tree. As we did not carry a fifth wheel, it was not just the time or place to have any of our members crippled, and I had bodings of evil. But, thanks to the healing virtues of the balsam which must have adhered to the blade of the axe, and double thanks to the court-plaster with which Orville had supplied himself before leaving home, the wounded leg, by being favored that night and the next day, gave us little trouble.

That night we had our first fair and square camp-199

ing out, - that is, sleeping on the ground with no shelter over us but the trees, — and it was in many respects the pleasantest night we spent in the woods. The weather was perfect and the place was perfect, and for the first time we were exempt from the midges and smoke; and then we appreciated the clean new page we had to work on. Nothing is so acceptable to the camper-out as a pure article in the way of woods and waters. Any admixture of human relics mars the spirit of the scene. Yet I am willing to confess that, before we were through those woods, the marks of an axe in a tree were a welcome sight. On resuming our march next day we followed the right bank of the Beaverkill, in order to strike a stream which flowed in from the north, and which was the outlet of Balsam Lake, the objective point of that day's march. The distance to the lake from our camp could not have been over six or seven miles; yet, traveling as we did, without path or guide, climbing up banks, plunging into ravines, making detours around swampy places, and forcing our way through woods choked up with much fallen and decayed timber, it seemed at least twice that distance, and the mid-afternoon sun was shining when we emerged into what is called the "Quaker Clearing," ground that I had been over nine years before, and that lies about two miles south of the lake. From this point we had a well-worn path that led us up a sharp rise of ground, then through

level woods till we saw the bright gleam of the water through the trees.

I am always struck, on approaching these little mountain lakes, with the extensive preparation that is made for them in the conformation of the ground. I am thinking of a depression, or natural basin, in the side of the mountain or on its top, the brink of which I shall reach after a little steep climbing; but instead of that, after I have accomplished the ascent. I find a broad sweep of level or gently undulating woodland that brings me after a half hour or so to the lake, which lies in this vast lap like a drop of water in the palm of a man's hand.

Balsam Lake was oval-shaped, scarcely more than half a mile long and a quarter of a mile wide, but presented a charming picture, with a group of dark gray hemlocks filling the valley about its head, and the mountains rising above and beyond. We found a bough house in good repair, also a dug-out and paddle and several floats of logs. In the dug-out I was soon creeping along the shady side of the lake. where the trout were incessantly jumping for a species of black fly, that, sheltered from the slight breeze, were dancing in swarms just above the surface of the water. The gnats were there in swarms also, and did their best toward balancing the accounts by preying upon me while I preyed upon the trout which preyed upon the flies. But by dint of keeping my hands, face, and neck constantly wet, I

am convinced that the balance of blood was on my side. The trout jumped most within a foot or two of shore, where the water was only a few inches deep. The shallowness of the water, perhaps, accounted for the inability of the fish to do more than lift their heads above the surface. They came up mouths wide open, and dropped back again in the most impotent manner. Where there is any depth of water, a trout will jump several feet into the air; and where there is a solid, unbroken sheet or column, they will scale falls and dams fifteen feet high.

We had the very cream and flower of our troutfishing at this lake. For the first time we could use the fly to advantage; and then the contrast between laborious tramping along shore, on the one hand, and sitting in one end of a dug-out and casting your line right and left with no fear of entanglement in brush or branch, while you were gently propelled along, on the other, was of the most pleasing character.

There were two varieties of trout in the lake, — what it seems proper to call silver trout and golden trout; the former were the slimmer, and seemed to keep apart from the latter. Starting from the outlet and working round on the eastern side toward the head, we invariably caught these first. They glanced in the sun like bars of silver. Their sides and bellies were indeed as white as new silver. As we neared the head, and especially as we came near

a space occupied by some kind of watergrass that grew in the deeper part of the lake, the other variety would begin to take the hook, their bellies a bright gold color, which became a deep orange on their fins; and as we returned to the place of departure with the bottom of the boat strewn with these bright forms intermingled, it was a sight not soon to be forgotten. It pleased my eye so, that I would fain linger over them, arranging them in rows and studying the various hues and tints. They were of nearly a uniform size, rarely one over ten or under eight inches in length, and it seemed as if the hues of all the precious metals and stones were reflected from their sides. The flesh was deep salmon-color; that of brook trout is generally much lighter. Some hunters and fishers from the valley of the Mill Brook, whom we met here, told us the trout were much larger in the lake, though far less numerous than they used to be. Brook trout do not grow large till they become scarce. It is only in streams that have been long and much fished that I have caught them as much as sixteen inches in length.

The "porcupigs" were numerous about the lake, and not at all shy. One night the heat became so intolerable in our oven-shaped bough house that I was obliged to withdraw from under its cover and lie down a little to one side. Just at daybreak, as I lay rolled in my blanket, something awoke me. Lifting up my head, there was a porcupine with his

forepaws on my hips. He was apparently as much surprised as I was; and to my inquiry as to what he at that moment might be looking for, he did not pause to reply, but hitting me a slap with his tail which left three or four quills in my blanket, he scampered off down the hill into the brush.

Being an observer of the birds, of course every curious incident connected with them fell under my notice. Hence, as we stood about our camp-fire one afternoon looking out over the lake, I was the only one to see a little commotion in the water, half hidden by the near branches, as of some tiny swimmer struggling to reach the shore. Rushing to its rescue in the canoe, I found a yellow-rumped warbler, quite exhausted, clinging to a twig that hung down into the water. I brought the drenched and helpless thing to camp, and, putting it into a basket, hung it up to dry. An hour or two afterward I heard it fluttering in its prison, and cautiously lifted the lid to get a better glimpse of the lucky captive, when it darted out and was gone in a twinkling. How came it in the water? That was my wonder, and I can only guess that it was a young bird that had never before flown over a pond of water, and, seeing the clouds and blue sky so perfect down there, thought it was a vast opening or gateway into another summer land, perhaps a short cut to the tropics, and so got itself into trouble. How my eye was delighted also with the redbird that alighted for a moment on a dry

SPECKLED TROUT

branch above the lake, just where a ray of light from the setting sun fell full upon it! A mere crimson point, and yet how it offset that dark, sombre background!

I have thus run over some of the features of an ordinary trouting excursion to the woods. People inexperienced in such matters, sitting in their rooms and thinking of these things, of all the poets have sung and romancers written, are apt to get sadly taken in when they attempt to realize their dreams. They expect to enter a sylvan paradise of trout, cool retreats, laughing brooks, picturesque views, and balsamic couches, instead of which they find hunger, rain, smoke, toil, gnats, mosquitoes, dirt, broken rest, vulgar guides, and salt pork; and they are very apt not to see where the fun comes in. But he who goes in a right spirit will not be disappointed, and will find the taste of this kind of life better, though bitterer, than the writers have described.



VI

BIRDS AND BIRDS

I

THERE is an old legend which one of our poets has made use of about the bird in the brain, a legend based, perhaps, upon the human significance of our feathered neighbors. Was not Audubon's brain full of birds, and very lively ones, too? A person who knew him says he looked like a bird himself; keen, alert, wide-eyed. It is not unusual to see the hawk looking out of the human countenance, and one may see or have seen that still nobler bird, the eagle. The song-birds might all have been brooded and hatched in the human heart. They are typical of its highest aspirations, and nearly the whole gamut of human passion and emotion is expressed more or less fully in their varied songs. Among our own birds, there is the song of the hermit thrush for devoutness and religious serenity; that of the wood thrush for the musing, melodious thoughts of twilight; the song sparrow's for simple faith and trust, the bobolink's for hilarity and glee, the mourning dove's for hopeless sorrow, the vireo's for all-day and every-day contentment, and the

nocturne of the mockingbird for love. Then there are the plaintive singers, the soaring, ecstatic singers, the confident singers, the gushing and voluble singers, and the half-voiced, inarticulate singers. The note of the wood pewee is a human sigh; the chickadee has a call full of unspeakable tenderness and fidelity. There is pride in the song of the tanager, and vanity in that of the catbird. There is something distinctly human about the robin; his is the note of boyhood. I have thoughts that follow the migrating fowls northward and southward, and that go with the sea-birds into the desert of the ocean, lonely and tireless as they. I sympathize with the watchful crow perched yonder on that tree, or walking about the fields. I hurry outdoors when I hear the clarion of the wild gander; his comrade in my heart sends back the call.

11

Here comes the cuckoo, the solitary, the joyless, enamored of the privacy of his own thoughts; when did he fly away out of this brain? The cuckoo is one of the famous birds, and is known the world over. He is mentioned in the Bible, and is discussed by Pliny and Aristotle. Jupiter himself once assumed the form of the cuckoo in order to take advantage of Juno's compassion for the bird.

We have only a reduced and modified cuckoo in this country. Our bird is smaller, and is much more

solitary and unsocial. Its color is totally different from the Old World bird, the latter being speckled, or a kind of dominick, while ours is of the finest cinnamon-brown or drab above, and blu'sh white beneath, with a gloss and richness of texture in the plumage that suggests silk. The bird has also mended its manners in this country, and no longer foists its eggs and young upon other birds, but builds a nest of its own and rears its own brood like other well-disposed birds.

The European cuckoo is evidently much more of a spring bird than ours is, much more a harbinger of the early season. He comes in April, while ours seldom appears till late in May, and hardly then appears. He is printed, as they say, but not published. Only the alert ones know he is here. This old English rhyme on the cuckoo does not apply this side the Atlantic:—

"In April
Come he will,
In flow'ry May
He sings all day,
In leafy June
He changes his tune,
In bright July
He's ready to fly,
In August
Go he must."

Our bird must go in August, too, but at no time
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does he sing all day. Indeed, his peculiar guttural call has none of the character of a song. It is a solitary, hermit-like sound, as if the bird were alone in the world, and called upon the Fates to witness his desolation. I have never seen two cuckoos together, and I have never heard their call answered; it goes forth into the solitudes unreclaimed. Like a true American, the bird lacks animal spirits and a genius for social intercourse. One August night I heard one calling, calling, a long time, not far from my house. It was a true night sound, more fitting then than by day.

The European cuckoo, on the other hand, seems to be a joyous, vivacious bird. Wordsworth applies to it the adjective "blithe," and says:—

"I hear thee babbling to the vale Of sunshine and of flowers."

English writers all agree that its song is animated and pleasing, and the outcome of a light heart. Thomas Hardy, whose touches always seem true to nature, describes in one of his books an early summer scene from amid which "the loud notes of three cuckoos were resounding through the still air." This is totally unlike our bird, which does not sing in concert, but affects remote woods, and is most frequently heard in cloudy weather. Hence the name of rain-crow that is applied to him in some parts of the country. I am more than half inclined

to believe that his call does indicate rain, as it is certain that of the tree-toad does.

The cuckoo has a slender, long-drawn-out appearance on account of the great length of tail. It is seldom seen about farms or near human habitations until the June canker-worm appears, when it makes frequent visits to the orchard. It loves hairy worms, and has eaten so many of them that its gizzard is lined with hair.

The European cuckoo builds no nest, but puts its eggs out to be hatched, as does our cow blackbird, and our cuckoo is master of only the rudiments of nest-building. No other bird in the woods builds so shabby a nest; it is the merest makeshift, — a loose scaffolding of twigs through which the eggs can be seen. One season, I knew of a pair that built within a few feet of a country house that stood in the midst of a grove, but a heavy storm of rain and wind broke up the nest.

If the Old World cuckoo had been as silent and retiring a bird as ours is, it could never have figured so conspicuously in literature as it does, — having a prominence that we would give only to the bobolink or to the wood thrush, — as witness his frequent mention by Shakespeare, or the following early English ballad (in modern guise):—

"Summer is come in, Loud sings the cuckoo; Groweth seed and bloweth mead,

And springs the wood now.
Sing, cuckoo;
The ewe bleateth for her lamb,
The cow loweth for her calf,
The bullock starteth.
The buck verteth,
Merrily sings the cuckoo,
Cuckoo, cuckoo;
Well sings the cuckoo,
Mayest thou never cease."

III

I think it will be found, on the whole, that the European birds are a more hardy and pugnacious race than ours, and that their song-birds have more vivacity and power, and ours more melody and plaintiveness. In the song of the skylark, for instance, there is little or no melody, but wonderful strength and copiousness. It is a harsh strain near at hand, but very taking when showered down from a height of several hundred feet.

Daines Barrington, the naturalist of the last century, to whom White of Selborne addressed so many of his letters, gives a table of the comparative merit of seventeen leading song-birds of Europe, marking them under the heads of mellowness, sprightliness, plaintiveness, compass, and execution. In the aggregate, the songsters stand highest in sprightliness, next in compass and execution, and lowest in the

other two qualities. A similar arrangement and comparison of our songsters, I think, would show an opposite result, — that is, a predominance of melody and plaintiveness. The British wren, for instance, stands in Barrington's table as destitute of both these qualities; the reed sparrow also. Our wrensongs, on the contrary, are gushing and lyrical, and more or less melodious, — that of the winter wren being preëminently so. Our sparrows, too, all have sweet, plaintive ditties, with but little sprightliness or compass. The English house sparrow has no song at all, but a harsh chatter that is unmatched among our birds. But what a hardy, prolific, pugnacious little wretch it is! These birds will maintain themselves where our birds will not live at all, and a pair of them will lie down in the gutter and fight like dogs. Compared with this miniature John Bull. the voice and manners of our common sparrow are gentle and retiring. The English sparrow is a street gamin, our bird a timid rustic.

The English robin redbreast is tallied in this country by the bluebird, which was called by the early settlers of New England the blue robin. The song of the British bird is bright and animated, that of our bird soft and plaintive.

The nightingale stands at the head in Barrington's table, and is but little short of perfect in all the qualities. We have no one bird that combines such strength or vivacity with such melody. The

mockingbird doubtless surpasses it in variety and profusion of notes; but falls short, I imagine, in sweetness and effectiveness. The nightingale will sometimes warble twenty seconds without pausing to breathe, and when the condition of the air is favorable, its song fills a space a mile in diameter. There are, perhaps, songs in our woods as mellow and brilliant, as is that of the closely allied species, the water-thrush; but our bird's song has but a mere fraction of the nightingale's volume and power.

Strength and volume of voice, then, seem to be characteristic of the English birds, and mildness and delicacy of ours. How much the thousands of years of contact with man, and familiarity with artificial sounds, over there, have affected the bird voices, is a question. Certain it is that their birds are much more domestic than ours, and certain it is that all purely wild sounds are plaintive and elusive. Even of the bark of the fox, the cry of the panther, the voice of the coon, or the call and clang of wild geese and ducks, or the war-cry of savage tribes, is this true; but not true in the same sense of domesticated or semi-domesticated animals and fowls. How different the voice of the common duck or goose from that of the wild species, or of the tame dove from that of the turtle of the fields and groves! Where could the English house sparrow have acquired that unmusical voice but amid the sounds of hoofs and wheels, and the discords of the street? And the

ordinary notes and calls of so many of the British birds, according to their biographers, are harsh and disagreeable; even the nightingale has an ugly, guttural "chuck." The missel-thrush has a harsh scream; the jay a note like "wrack," "wrack;" the fieldfare a rasping chatter; the blackbird, which is our robin cut in ebony, will sometimes crow like a cock and cackle like a hen; the flocks of starlings make a noise like a steam saw-mill; the white-throat has a disagreeable note; the swift a discordant scream; and the bunting a harsh song. Among our song-birds, on the contrary, it is rare to hear a harsh or displeasing voice. Even their notes of anger and alarm are more or less soft.

I would not imply that our birds are the better songsters, but that their songs, if briefer and feebler, are also more wild and plaintive, — in fact, that they are softer-voiced. The British birds, as I have stated, are more domestic than ours; a much larger number build about houses and towers and outbuildings. The titmouse with us is exclusively a wood-bird; but in Britain three or four species of them resort more or less to buildings in winter. Their redstart also builds under the eaves of houses; their starling in church steeples and in holes in walls; several thrushes resort to sheds to nest; and jackdaws breed in the crannies of the old architecture, and this in a much milder climate than our own.

They have in that country no birds that answer

to our tiny, lisping wood-warblers, — genus Dendroica, — nor to our vireos, Vireonida. On the other hand, they have a larger number of field-birds and semi-game-birds. They have several species like our robin; thrushes like him, and some of them larger, as the ring ouzel, the missel-thrush, the field-fare, the throstle, the redwing, White's thrush, the blackbird, — these, besides several species in size and habits more like our wood thrush.

Several species of European birds sing at night besides the true nightingale, — not fitfully and as if in their dreams, as do a few of our birds, but continuously. They make a business of it. The sedge-bird ceases at times as if from very weariness; but wake the bird up, says White, by throwing a stick or stone into the bushes, and away it goes again in full song. We have but one real nocturnal songster, and that is the mockingbird. One can see how this habit might increase among the birds of a long-settled country like England. With sounds and voices about them, why should they be silent, too? The danger of betraying themselves to their natural enemies would be less than in our woods.

That their birds are more quarrelsome and pugnacious than ours I think evident. Our thrushes are especially mild-mannered, but the missel-thrush is very bold and saucy, and has been known to fly in the face of persons who have disturbed the sitting bird. No jay nor magpie nor crow can stand before

him. The Welsh call him master of the coppice, and he welcomes a storm with such a vigorous and hearty song that in some countries he is known as storm-cock. He sometimes kills the young of other birds and eats eggs, - a very unthrushlike trait. The whitethroat sings with crest erect, and attitudes of warning and defiance. The hooper is a great bully; so is the greenfinch. The wood-grouse now extinct, I believe — has been known to attack people in the woods. And behold the grit and hardihood of that little emigrant or exile to our shores, the English sparrow! Our birds have their tilts and spats also; but the only really quarrelsome members in our family are confined to the flycatchers, as the kingbird and the great crested flycatcher. None of our song-birds are bullies.

Many of our more vigorous species, as the butcherbird, the crossbills, the pine grosbeak, the redpoll, the Bohemian chatterer, the shore lark, the longspur, the snow bunting, etc., are common to both continents.

Have the Old World creatures throughout more pluck and hardihood than those that are indigenous to this continent? Behold the common mouse, how he has followed man to this country and established himself here against all opposition, overrunning our houses and barns, while the native species is rarely seen. And when has anybody seen the American rat, while his congener from across the water has

penetrated to every part of the continent! By the next train that takes the family to some Western frontier, arrives this pest. Both our rat and mouse or mice are timid, harmless, delicate creatures, compared with the cunning, filthy, and prolific specimens that have fought their way to us from the Old World. There is little doubt, also, that the red fox has been transplanted to this country from Europe. He is certainly on the increase, and is fast running out the native gray species.

Indeed, I have thought that all forms of life in the Old World were marked by greater prominence of type, or stronger characteristic and fundamental qualities, than with us,—coarser and more hairy and virile, and therefore more powerful and lasting. This opinion is still subject to revision, but I find it easier to confirm it than to undermine it.

IV

But let me change the strain and contemplate for a few moments this feathered bandit,—this bird with the mark of Cain upon him, Lanius borealis,—the great shrike or butcher-bird. Usually the character of a bird of prey is well defined; there is no mistaking him. His claws, his beak, his head, his wings, in fact his whole build, point to the fact that he subsists upon live creatures; he is armed to catch them and to slay them. Every bird knows a hawk and knows him from the start, and is on the

lookout for him. The hawk takes life, but he does it to maintain his own, and it is a public and universally known fact. Nature has sent him abroad in that character, and has advised all creatures of it. Not so with the shrike: here she has concealed the character of a murderer under a form as innocent as that of the robin. Feet, wings, tail, color, head, and general form and size are all those of a songbird, - very much like that master songster, the mockingbird, - yet this bird is a regular Bluebeard among its kind. Its only characteristic feature is its beak, the upper mandible having two sharp processes and a sharp hooked point. It cannot fly away to any distance with the bird it kills, nor hold it in its claws to feed upon it. It usually impales its victim upon a thorn, or thrusts it in the fork of a limb. For the most part, however, its food seems to consist of insects, — spiders, grasshoppers, beetles, etc. It is the assassin of the small birds, whom it often destroys in pure wantonness, or merely to sup on their brains, as the Gaucho slaughters a wild cow or bull for its tongue. It is a wolf in sheep's clothing. Apparently its victims are unacquainted with its true character and allow it to approach them, when the fatal blow is given. I saw an illustration of this the other day. A large number of goldfinches in their fall plumage, together with snowbirds and sparrows, were feeding and chattering in some low bushes back of the barn. I had paused by the fence

and was peeping through at them, hoping to get a glimpse of that rare sparrow, the white-crowned. Presently I heard a rustling among the dry leaves as if some larger bird was also among them. Then I heard one of the goldfinches cry out as if in distress, when the whole flock of them started up in alarm, and, circling around, settled in the tops of the larger trees. I continued my scrutiny of the bushes, when I saw a large bird, with some object in its beak, hopping along on a low branch near the ground. It disappeared from my sight for a few moments, then came up through the undergrowth into the top of a young maple where some of the finches had alighted, and I beheld the shrike. The little birds avoided him and flew about the tree, their pursuer following them with the motions of his head and body as if he would fain arrest them by his murderous gaze. The birds did not utter the cry or make the demonstration of alarm they usually do on the appearance of a hawk, but chirruped and called and flew about in a half-wondering, half-bewildered manner. As they flew farther along the line of trees the shrike followed them as if bent on further captures. I then made my way around to see what the shrike had caught, and what he had done with his prey. As I approached the bushes I saw the shrike hastening back. I read his intentions at once. Seeing my movements, he had returned for his game. But I was too quick for him, and he got up out of

the brush and flew away from the locality. On some twigs in the thickest part of the bushes I found his victim, — a goldfinch. It was not impaled upon a thorn, but was carefully disposed upon some horizontal twigs, — laid upon the shelf, so to speak. It was as warm as in life, and its plumage was unruffled. On examining it I found a large bruise or break in the skin on the back of the neck, at the base of the skull. Here the bandit had no doubt griped the bird with his strong beak. The shrike's blood-thirstiness was seen in the fact that he did not stop to devour his prey, but went in quest of more, as if opening a market of goldfinches. The thicket was his shambles, and if not interrupted, he might have had a fine display of titbits in a short time.

The shrike is called a butcher from his habit of sticking his meat upon hooks and points; further than that, he is a butcher because he devours but a trifle of what he slays.

A few days before, I had witnessed another little scene in which the shrike was the chief actor. A chipmunk had his den in the side of the terrace above the garden, and spent the mornings laying in a store of corn which he stole from a field ten or twelve rods away. In traversing about half this distance, the little poacher was exposed; the first cover going from his den was a large maple, where he always brought up and took a survey of the scene. I would see him spinning along toward the maple,

then from it by an easy stage to the fence adjoining the corn; then back again with his booty. One morning I paused to watch him more at my leisure. He came up out of his retreat and cocked himself up to see what my motions meant. His forepaws were clasped to his breast precisely as if they had been hands, and the tips of the fingers thrust into his vest pockets. Having satisfied himself with reference to me, he sped on toward the tree. He had nearly reached it, when he turned tail and rushed for his hole with the greatest precipitation. As he neared it, I saw some bluish object in the air closing in upon him with the speed of an arrow, and, as he vanished within, a shrike brought up in front of the spot, and with spread wings and tail stood hovering a moment, and looking in, then turned and went away. Apparently it was a narrow escape for the chipmunk, and, I venture to say, he stole no more corn that morning. The shrike is said to catch mice, but it is not known to attack squirrels. He certainly could not have strangled the chipmunk, and I am curious to know what would have been the result had he overtaken him. Probably it was only a kind of brag on the part of the bird, — a bold dash where no risk was run. He simulated the hawk. the squirrel's real enemy, and no doubt enjoyed the joke.

On another occasion, as I was riding along a mountain road early in April, a bird started from

the fence where I was passing, and flew heavily to the branch of a near apple-tree. It proved to be a shrike with a small bird in his beak. He thrust his victim into a fork of a branch, then wiped his bloody beak upon the bark. A youth who was with me, to whom I pointed out the fact, had never heard of such a thing, and was much incensed at the shrike. "Let me fire a stone at him," said he, and jumping out of the wagon, he pulled off his mittens and fumbled about for a stone. Having found one to his liking, with great earnestness and deliberation he let drive. The bird was in more danger than I had imagined, for he escaped only by a hair's breadth; a guiltless bird like the robin or sparrow would surely have been slain; the missile grazed the spot where the shrike sat, and cut the ends of his wings as he darted behind the branch. We could see that the murdered bird had been brained, as its head hung down toward us.

The shrike is not a summer bird with us in the Northern States, but mainly a fall and winter one; in summer he goes farther north. I see him most frequently in November and December. I recall a morning during the former month that was singularly clear and motionless; the air was like a great drum. Apparently every sound within the compass of the horizon was distinctly heard. The explosions back in the cement quarries ten miles away smote the hollow and reverberating air like giant fists.

Just as the sun first showed his fiery brow above the horizon, a gun was discharged over the river. On the instant a shrike, perched on the topmost spray of a maple above the house, set up a loud, harsh call or whistle, suggestive of certain notes of the blue jay. The note presently became a crude, broken warble. Even this scalper of the innocents had music in his soul on such a morning. He saluted the sun as a robin might have done. After he had finished, he flew away toward the east.

The shrike is a citizen of the world, being found in both hemispheres. It does not appear that the European species differs essentially from our own. In Germany he is called the nine-killer, from the belief that he kills and sticks upon thorns nine grasshoppers a day.

To make my portrait of the shrike more complete, I will add another trait of his described by an acute observer who writes me from western New York. He saw the bird on a bright midwinter morning when the thermometer stood at zero, and by cautious approaches succeeded in getting under the apple-tree upon which he was perched. The shrike was uttering a loud, clear note like clu-eet, clu-eet, and, on finding he had a listener who was attentive and curious, varied his performance and kept it up continuously for fifteen minutes. He seemed to enjoy having a spectator, and never took his eye off him. The observer approached within twenty feet

of him. "As I came near," he says, "the shrike began to scold at me, a sharp, buzzing, squeaking sound not easy to describe. After a little he came out on the end of the limb nearest me, then he posed himself, and, opening his wings a little, began to trill and warble under his breath, as it were, with an occasional squeak, and vibrating his half-open wings in time with his song." Some of his notes resembled those of the bluebird, and the whole performance is described as pleasing and melodious.

This account agrees with Thoreau's observation, where he speaks of the shrike "with heedless and unfrozen melody bringing back summer again." Sings Thoreau:—

"His steady sails he never furls
At any time o' year,
And perching now on winter's curls,
He whistles in his ear."

But his voice is that of a savage, — strident and disagreeable.

I have often wondered how this bird was kept in check; in the struggle for existence it would appear to have greatly the advantage of other birds. It cannot, for instance, be beset with one tenth of the dangers that threaten the robin, and yet apparently there are a thousand robins to every shrike. It builds a warm, compact nest in the mountains and dense woods, and lays six eggs, which would indi-

cate a rapid increase. The pigeon lays but two eggs, and is preyed upon by both man and beast, millions of them meeting a murderous death every year; yet always some part of the country is swarming with antold numbers of them.¹ But the shrike is one of our rarest birds. I myself seldom see more than two each year, and before I became an observer of birds I never saw any.

In size the shrike is a little inferior to the blue jay, with much the same form. If you see an unknown bird about your orchard or fields in November or December of a bluish grayish complexion, with dusky wings and tail that show markings of white, flying rather heavily from point to point, or alighting down in the stubble occasionally, it is pretty sure to be the shrike.

V

Nature never tires of repeating and multiplying the same species. She makes a million bees, a million birds, a million mice or rats, or other animals, so nearly alike that no eye can tell one from another; but it is rarely that she issues a small and a large edition, as it were, of the same species. Yet she has done it in a few cases among the birds with hardly more difference than a foot-note added or omitted. The cedar-bird, for instance, is the Bohe-

¹ This is no longer the case. The passenger pigeon new seems on the verge of extinction (1895).

mian waxwing or chatterer in smaller type, copied even to the minute, wax-like appendages that bedeck the ends of the wing-quills. It is about one third smaller, and a little lighter in color, owing perhaps to the fact that it is confined to a warmer latitude, its northward range seeming to end about where that of its larger brother begins. Its flight, its note, its manners, its general character and habits, are almost identical with those of its prototype. It is confined exclusively to this continent, while the chatterer is an Old World bird as well, and ranges the northern parts of both continents. The latter comes to us from the hyperborean regions, brought down occasionally by the great cold waves that originate in those high latitudes. It is a bird of Siberian and Alaskan evergreens, and passes its life for the most part far beyond the haunts of man. I have never seen the bird, but small bands of them make excursions every winter down into our territory from British America. Audubon, I believe, saw them in Maine: other observers have seen them in Minnesota. It has the crest of the cedar-bird, the same yellow border to its tail, but is marked with white on its wings, as if a snowflake or two had adhered to it from the northern cedars and pines. If you see about the evergreens in the coldest, snowiest weather what appear to be a number of very large cherrybirds, observe them well, for the chances are that visitants from the circumpolar regions are before

your door. It is a sign, also, that the frost legions of the north are out in great force and carrying all before them.

Our cedar or cherry bird is the most silent bird we have. Our neutral-tinted birds, like him, as a rule are our finest songsters; but he has no song or call, uttering only a fine bead-like note on taking flight. This note is the cedar-berry rendered back in sound. When the ox-heart cherries, which he has only recently become acquainted with, have had time to enlarge his pipe and warm his heart, I shall expect more music from him. But in lieu of music, what a pretty compensation are those minute, almost artificial-like, plumes of orange and vermilion that tip the ends of his wing quills! Nature could not give him these and a song too. She has given the hummingbird a jewel upon his throat, but no song, save the hum of his wings.

Another bird that is occasionally borne to us on the crest of the cold waves from the frozen zone, and that is repeated on a smaller scale in a permanent resident, is the pine grosbeak; his alter ego, reduced in size, is the purple finch, which abounds in the higher latitudes of the temperate zone. The color and form of the two birds are again essentially the same. The females and young males of both species are of a grayish brown like the sparrow, while in the old males this tint is imperfectly hidden beneath a coat of carmine, as if the color had been poured

upon their heads, where it is strongest, and so oozed down and through the rest of the plumage. Their tails are considerably forked, their beaks cone-shaped and heavy, and their flight undulating. Those who have heard the grosbeak describe its song as similar to that of the finch, though no doubt it is louder and stronger. The finch's instrument is a fife tuned to love and not to war. He blows a clear, round note, rapid and intricate, but full of sweetness and melody. His hardier relative with that larger beak and deeper chest must fill the woods with sounds. Audubon describes its song as exceedingly rich and full.

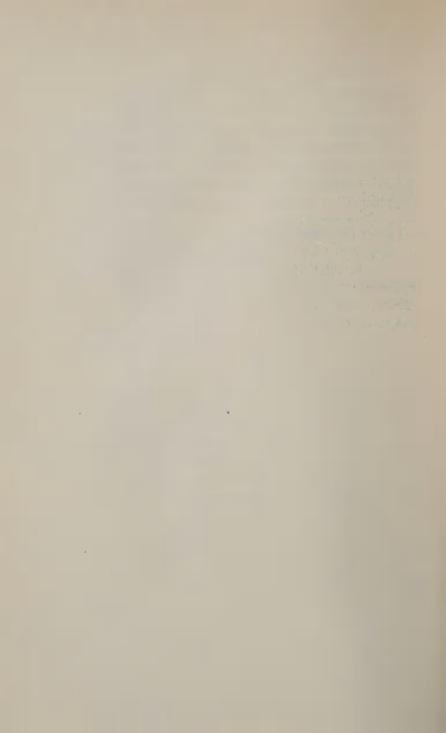
As in the case of the Bohemian waxwing, this bird is also common to both worlds, being found through Northern Europe and Asia and the northern parts of this continent. It is the pet of the pinetree, and one of its brightest denizens. Its visits to the States are irregular and somewhat mysterious. A great flight of them occurred in the winter of 1874-75. They attracted attention all over the country. Several other flights of them have occurred during the century. When this bird comes, it is so unacquainted with man that its tameness is delightful to behold. It thrives remarkably well in captivity, and in a couple of weeks will become so tame that it will hop down and feed out of its master's or mistress's hand. It comes from far beyond the region of the apple, yet it takes at once to this fruit,

or rather to the seeds, which it is quick to divine, at its core.

Close akin to these two birds, and standing in the same relation to each other, are two other birds that come to us from the opposite zone, - the torrid, -namely, the blue grosbeak and his petit duplicate, the indigo-bird. The latter is a common summer resident with us, - a bird of the groves and bushy fields, where his bright song may be heard all through the long summer day. I hear it in the dry and parched August when most birds are silent, sometimes delivered on the wing and sometimes from the perch. Indeed, with me its song is as much a midsummer sound as is the brassy crescendo of the cicada. The memory of its note calls to mind the flame-like quiver of the heated atmosphere and the bright glare of the meridian sun. Its color is much more intense than that of the common bluebird, as summer skies are deeper than those of April, but its note is less mellow and tender. Its original, the blue grosbeak, is an uncertain wanderer from the south, as the pine grosbeak is from the north. I have never seen it north of the District of Columbia. It has a loud, vivacious song, of which it is not stingy, and which is a large and free rendering of the indigo's, and belongs to summer more than to spring. The bird is colored the same as its lesser brother, the males being a deep blue and the females a modest drab. Its nest is usually placed low down,

as is the indigo's, and the male carols from the tops of the trees in its vicinity in the same manner. Indeed, the two birds are strikingly alike in every respect except in size and in habitat, and, as in each of the other cases, the lesser bird is, as it were, the point, the continuation, of the larger, carrying its form and voice forward as the reverberation carries the sound.

I know the ornithologists, with their hair-splittings, or rather feather-splittings, point out many differences, but they are unimportant. The fractions may not agree, but the whole numbers are the same.



VII

A BED OF BOUGHS

WHEN Aaron came again to camp and tramp with me, or, as he wrote, "to eat locusts and wild honey with me in the wilderness," it was past the middle of August, and the festival of the season neared its close. We were belated guests, but perhaps all the more eager on that account, especially as the country was suffering from a terrible drought, and the only promise of anything fresh or tonic or cool was in primitive woods and mountain passes.

"Now, my friend," said I, "we can go to Canada, or to the Maine woods, or to the Adirondacks, and thus have a whole loaf and a big loaf of this bread which you know as well as I will have heavy streaks in it, and will not be uniformly sweet; or we can seek nearer woods, and content ourselves with one week instead of four, with the prospect of a keen relish to the last. Four sylvan weeks sound well, but the poetry is mainly confined to the first one. We can take another slice or two of the Catskills, can we not, without being sated with kills and dividing ridges?"

"Anywhere," replied Aaron, "so that we have a good tramp and plenty of primitive woods. No

doubt we should find good browsing on Peakamoose, and trout enough in the streams at its base."

So without further ado we made ready, and in due time found ourselves, with our packs on our backs, entering upon a pass in the mountains that led to the valley of the Rondout.

The scenery was wild and desolate in the extreme, the mountains on either hand looking as if they had been swept by a tornado of stone. Stone avalanches hung suspended on their sides, or had shot down into the chasm below. It was a kind of Alpine scenery, where crushed and broken boulders covered the earth instead of snow.

In the depressions in the mountains the rocky fragments seemed to have accumulated, and to have formed what might be called stone glaciers that were creeping slowly down.

Two hours' march brought us into heavy timber where the stone cataclysm had not reached, and before long the soft voice of the Rondout was heard in the gulf below us. We paused at a spring run, and I followed it a few yards down its mountain stairway, carpeted with black moss, and had my first glimpse of the unknown stream. I stood upon rocks and looked many feet down into a still, sunlit pool and saw the trout disporting themselves in the transparent water, and I was ready to encamp at once; but my companion, who had not been tempted by the view, insisted upon holding to our original

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purpose, which was to go farther up the stream. We passed a clearing with three or four houses and a saw-mill. The dam of the latter was filled with such clear water that it seemed very shallow, and not ten or twelve feet deep, as it really was. The fish were as conspicuous as if they had been in a pail.

Two miles farther up we suited ourselves and went into camp.

If there ever was a stream cradled in the rocks, detained lovingly by them, held and fondled in a rocky lap or tossed in rocky arms, that stream is the Rondout. Its course for several miles from its head is over the stratified rock, and into this it has worn a channel that presents most striking and peculiar features. Now it comes silently along on the top of the rock, spread out and flowing over that thick, dark green moss that is found only in the coldest streams; then drawn into a narrow canal only four or five feet wide, through which it shoots, black and rigid, to be presently caught in a deep basin with shelving, overhanging rocks, beneath which the phœbe-bird builds in security, and upon which the fisherman stands and casts his twenty or thirty feet of line without fear of being thwarted by the brush; then into a black, well-like pool, ten or fifteen feet deep, with a smooth, circular wall of rock on one side worn by the water through long ages; or else into a deep, oblong pocket, into which and out of which the water glides without a ripple.

The surface rock is a coarse sandstone superincumbent upon a lighter-colored conglomerate that looks like Shawangunk grits, and when this latter is reached by the water it seems to be rapidly disintegrated by it, thus forming the deep excavations alluded to.

My eyes had never before beheld such beauty in a mountain stream. The water was almost as transparent as the air, - was, indeed, like liquid air; and as it lay in these wells and pits enveloped in shadow, or lit up by a chance ray of the vertical sun, it was a perpetual feast to the eye, - so cool, so deep, so pure; every reach and pool like a vast spring. You lay down and drank or dipped the water up in your cup, and found it just the right degree of refreshing coldness. One is never prepared for the clearness of the water in these streams. It is always a surprise. See them every year for a dozen years, and yet, when you first come upon one, you will utter an exclamation. I saw nothing like it in the Adirondacks, nor in Canada. Absolutely without stain or hint of impurity, it seems to magnify like a lens, so that the bed of the stream and the fish in it appear deceptively near. It is rare to find even a trout stream that is not a little "off color," as they say of diamonds, but the waters in the section of which I am writing have the genuine ray; it is the undimmed and untarnished diamond.

If I were a trout, I should ascend every stream

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till I found the Rondout. It is the ideal brook. What homes these fish have, what retreats under the rocks, what paved or flagged courts and areas, what crystal depths where no net or snare can reach them!—no mud, no sediment, but here and there in the clefts and seams of the rock patches of white gravel,—spawning-beds ready-made.

The finishing touch is given by the moss with which the rock is everywhere carpeted. Even in the narrow grooves or channels where the water runs the swiftest, the green lining is unbroken. It sweeps down under the stream and up again on the other side, like some firmly woven texture. It softens every outline and cushions every stone. At a certain depth in the great basins and wells it of course ceases, and only the smooth-swept flagging of the place-rock is visible.

The trees are kept well back from the margin of the stream by the want of soil, and the large ones unite their branches far above it, thus forming a high winding gallery, along which the fisherman passes and makes his long casts with scarcely an interruption from branch or twig. In a few places he makes no cast, but sees from his rocky perch the water twenty feet below him, and drops his hook into it as into a well.

We made camp at a bend in the creek where there was a large surface of mossy rock uncovered by the shrunken stream,—a clean, free space left

for us in the wilderness that was faultless as a kitchen and dining-room, and a marvel of beauty as a lounging-room, or an open court, or what you will. An obsolete wood or bark road conducted us to it, and disappeared up the hill in the woods beyond. A loose boulder lay in the middle, and on the edge next the stream were three or four large natural wash-basins scooped out of the rock, and ever filled ready for use. Our lair we carved out of the thick brush under a large birch on the bank. Here we planted our flag of smoke and feathered our nest with balsam and hemlock boughs and ferns, and laughed at your four walls and pillows of down.

Wherever one encamps in the woods, there is home, and every object and feature about the place take on a new interest and assume a near and friendly relation to one.

We were at the head of the best fishing. There was an old bark-clearing not far off which afforded us a daily dessert of most delicious blackberries, — an important item in the woods, — and then all the features of the place — a sort of cave above ground — were of the right kind.

There was not a mosquito, or gnat, or other pest in the woods, the cool nights having already cut them off. The trout were sufficiently abundant, and afforded us a few hours' sport daily to supply our wants. The only drawback was, that they were out

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of season, and only palatable to a woodman's keen appetite. What is this about trout spawning in October and November, and in some cases not till March? These trout had all spawned in August, every one of them. The coldness and purity of the water evidently made them that much earlier. The game laws of the State protect the fish after September 1, proceeding upon the theory that its spawning season is later than that, —as it is in many cases, but not in all, as we found out.

The fish are small in these streams, seldom weighing over a few ounces. Occasionally a large one is seen of a pound or pound and a half weight. I remember one such, as black as night, that ran under a black rock. But I remember much more distinctly a still larger one that I caught and lost one eventful day.

I had him on my hook ten minutes, and actually got my thumb in his mouth, and yet he escaped.

It was only the over-eagerness of the sportsman. I imagined I could hold him by the teeth.

The place where I struck him was a deep well-hole, and I was perched upon a log that spanned it ten or twelve feet above the water. The situation was all the more interesting because I saw no possible way to land my fish. I could not lead him ashore and my frail tackle could not be trusted to lift hin sheer from that pit to my precarious perch. What should I do? call for help? but no help was near.

I had a revolver in my pocket and might have shot him through and through, but that novel proceeding did not occur to me until it was too late. I would have taken a Sam Patch leap into the water, and have wrestled with my antagonist in his own element, but I knew the slack, thus sure to occur. would probably free him; so I peered down upon the beautiful creature and enjoyed my triumph as far as it went. He was caught very lightly through his upper jaw, and I expected every struggle and somersault would break the hold. Presently I saw a place in the rocks where I thought it possible, with such an incentive, to get down within reach of the water: by careful manœuvring I slipped my pole behind me and got hold of the line, which I cut and wound around my finger; then I made my way toward the end of the log and the place in the rocks, leading my fish along much exhausted on the top of the water. By an effort worthy the occasion I got down within reach of the fish, and, as I have already confessed, thrust my thumb into his mouth and pinched his cheek; he made a spring and was free from my hand and the hook at the same time; for a moment he lay panting on the top of the water, then, recovering himself slowly, made his way down through the clear, cruel element beyond all hope of recapture. My blind impulse to follow and try to seize him was very strong, but I kept my hold and peered and peered long after the fish was lost to

view, then looked my mortification in the face and laughed a bitter laugh.

"But, hang it! I had all the fun of catching the fish, and only miss the pleasure of eating him, which at this time would not be great."

"The fun, I take it," said my soldier, "is in triumphing, and not in being beaten at the last."

"Well, have it so; but I would not exchange those ten or fifteen minutes with that trout for the tame two hours you have spent in catching that string of thirty. To see a big fish after days of small fry is an event; to have a jump from one is a glimpse of the sportsman's paradise; and to hook one, and actually have him under your control for ten minutes, — why, that is paradise itself as long as it lasts."

One day I went down to the house of a settler a mile below, and engaged the good dame to make us a couple of loaves of bread, and in the evening we went down after them. How elastic and exhilarating the walk was through the cool, transparent shadows! The sun was gilding the mountains, and its yellow light seemed to be reflected through all the woods. At one point we looked through and along a valley of deep shadow upon a broad sweep of mountain quite near and densely clothed with woods, flooded from base to summit by the setting sun. It was a wild, memorable scene. What power and effectiveness in Nature, I thought, and how

rarely an artist catches her touch! Looking down upon or squarely into a mountain covered with a heavy growth of birch and maple, and shone upon by the sun, is a sight peculiarly agreeable to me. How closely the swelling umbrageous heads of the trees fit together, and how the eye revels in the flowing and easy uniformity, while the mind feels the ruggedness and terrible power beneath!

As we came back, the light yet lingered on the top of Slide Mountain.

"'The last that parleys with the setting sun,'" said I, quoting Wordsworth.

"That line is almost Shakespearean," said my companion. "It suggests that great hand at least, though it has not the grit and virility of the more primitive bard. What triumph and fresh morning power in Shakespeare's lines that will occur to us at sunrise to-morrow!—

"'And jocund day
Stands tiptoe on the misty mountain tops.'
Or in this:—

"' Full many a glorious morning have I seen Flatter the mountain tops with sovran eye.'

There is savage, perennial beauty there, the quality that Wordsworth and nearly all the modern poets lack."

"But Wordsworth is the poet of the mountains," said I, "and of lonely peaks. True, he does not

express the power and aboriginal grace there is in them, nor toy with them and pluck them up by the hair of their heads, as Shakespeare does. There is something in Peakamoose yonder, as we see it from this point, cutting the blue vault with its dark, serrated edge, not in the bard of Grasmere; but he expresses the feeling of loneliness and insignificance that the cultivated man has in the presence of mountains, and the burden of solemn emotion they give rise to. Then there is something much more wild and merciless, much more remote from human interests and ends, in our long, high, wooded ranges than is expressed by the peaks and scarred groups of the lake country of Britain. These mountains we behold and cross are not picturesque, - they are wild and inhuman as the sea. In them you are in a maze, in a weltering world of woods; you can see neither the earth nor the sky, but a confusion of the growth and decay of centuries, and must traverse them by your compass or your science of woodcraft, - a rift through the trees giving one a glimpse of the opposite range or of the valley beneath, and he is more at sea than ever; one does not know his own farm or settlement when framed in these mountain treetops; all look alike unfamiliar."

Not the least of the charm of camping out is your camp-fire at night. What an artist! What pictures are boldly thrown or faintly outlined upon the canvas of the night! Every object, every attitude of

your companion is striking and memorable. You see effects and groups every moment that you would give money to be able to carry away with you in enduring form. How the shadows leap, and skulk, and hover about! Light and darkness are in perpetual tilt and warfare, with first the one unhorsed, then the other. The friendly and cheering fire, what acquaintance we make with it! We had almost forgotten there was such an element, we had so long known only its dark offspring, heat. Now we see the wild beauty uncaged and note its manner and temper. How surely it creates its own draught and sets the currents going, as force and enthusiasm always will! It carves itself a chimney out of the fluid and houseless air. A friend, a ministering angel, in subjection; a fiend, a fury, a monster, ready to devour the world, if ungoverned. By day it burrows in the ashes and sleeps; at night it comes forth and sits upon its throne of rude logs, and rules the camp, a sovereign queen.

Near camp stood a tall, ragged yellow birch, its partially cast-off bark hanging in crisp sheets or dense rolls.

"That tree needs the barber," we said, "and shall have a call from him to-night."

So after dark I touched a match into it, and we saw the flames creep up and wax in fury until the whole tree and its main branches stood wrapped in a sheet of roaring flame. It was a wild and strik-

ing spectacle, and must have advertised our camp to every nocturnal creature in the forest.

What does the camper think about when lounging around the fire at night? Not much, - of the sport of the day, of the big fish he lost and might have saved, of the distant settlement, of to-morrow's plans. An owl hoots off in the mountain and he thinks of him; if a wolf were to howl or a panther to scream, he would think of him the rest of the night. As it is, things flicker and hover through his mind, and he hardly knows whether it is the past or the present that possesses him. Certain it is, he feels the hush and solitude of the great forest, and, whether he will or not, all his musings are in some way cast upon that huge background of the night. Unless he is an old camper-out, there will be an undercurrent of dread or half fear. My companion said he could not help but feel all the time that there ought to be a sentinel out there pacing up and down. One seems to require less sleep in the woods, as if the ground and the untempered air rested and refreshed him sooner. The balsam and the hemlock heal his aches very quickly. If one is awakened often during the night, as he invariably is, he does not feel that sediment of sleep in his mind next day that he does when the same interruption occurs at home; the boughs have drawn it all out of him.

And it is wonderful how rarely any of the housed and tender white man's colds or influenzas come

through these open doors and windows of the woods. It is our partial isolation from Nature that is dangerous; throw yourself unreservedly upon her and she rarely betrays you.

If one takes anything to the woods to read, he seldom reads it; it does not taste good with such primitive air.

There are very few camp poems that I know of, poems that would be at home with one on such an expedition; there is plenty that is weird and spectral, as in Poe, but little that is woody and wild as this scene is. I recall a Canadian poem by the late C. D. Shanly — the only one, I believe, the author ever wrote — that fits well the distended pupil of the mind's eye about the camp-fire at night. It was printed many years ago in the "Atlantic Monthly," and is called "The Walker of the Snow;" it begins thus: —

"'Speed on, speed on, good master;
The camp lies far away;
We must cross the haunted valley
Before the close of day.''

"That has a Canadian sound," said Aaron; "give us more of it."

"'How the snow-blight came upon me I will tell you as we go,— The blight of the shadow hunter Who walks the midnight snow."

And so on. The intent seems to be to personify the fearful cold that overtakes and benumbs the traveler in the great Canadian forests in winter. This stanza brings out the silence or desolation of the scene very effectively, — a scene without sound or motion:—

"'Save the wailing of the moose-bird With a plaintive note and low;

And the skating of the red leaf Upon the frozen snow.'

"The rest of the poem runs thus: —

" And said I, Though dark is falling, And far the camp must be, Yet my heart it would be lightsome If I had but company.

"And then I sang and shouted, Keeping measure as I sped,To the harp-twang of the snow-shoeAs it sprang beneath my tread.

"'Nor far into the valley Had I dipped upon my way, When a dusky figure joined me In a capuchin of gray,

With a long and limber stride;
And I hailed the dusky stranger,
As we traveled side by side.

- "'But no token of communion Gave he by word or look, And the fear-chill fell upon me At the crossing of the brook.
- "'For I saw by the sickly moonlight,
 As I followed, bending low,
 That the walking of the stranger
 Left no foot-marks on the snow.
- "'Then the fear-chill gathered o'er me,
 Like a shroud around me cast,
 As I sank upon the snow-drift
 Where the shadow hunter passed.
- "'And the otter-trappers found me,
 Before the break of day,
 With my dark hair blanched and whitened
 As the snow in which I lay.
- "'But they spoke not as they raised me;
 For they knew that in the night
 I had seen the shadow hunter
 And had withered in his sight.
- "'Sancta Maria speed us!

 The sun is fallen low:

 Before us lies the valley

 Of the Walker of the Snow!'"
- "Ah!" exclaimed my companion. "Let us pile on more of those dry birch-logs; I feel both the

'fear-chill' and the 'cold-chill' creeping over me. How far is it to the valley of the Neversink?"

"About three or four hours' march, the man said."

"I hope we have no haunted valleys to cross?"

"None," said I, "but we pass an old log cabin about which there hangs a ghostly superstition. At a certain hour in the night, during the time the bark is loose on the hemlock, a female form is said to steal from it and grope its way into the wilderness. The tradition runs that her lover, who was a barkpeeler and wielded the spud, was killed by his rival, who felled a tree upon him while they were at work. The girl, who helped her mother cook for the 'hands,' was crazed by the shock, and that night stole forth into the woods and was never seen or heard of more. There are old hunters who aver that her cry may still be heard at night at the head of the valley whenever a tree falls in the stillness of the forest."

"Well, I heard a tree fall not ten minutes ago," said Aaron; "a distant, rushing sound with a subdued crash at the end of it, and the only answering cry I heard was the shrill voice of the screech owl off yonder against the mountain. But maybe it was not an owl," said he after a moment; "let us help the legend along by believing it was the voice of the lost maiden."

"By the way," continued he, "do you remember

the pretty creature we saw seven years ago in the shanty on the West Branch, who was really helping her mother cook for the hands, a slip of a girl twelve or thirteen years old, with eyes as beautiful and bewitching as the waters that flowed by her cabin? I was wrapped in admiration till she spoke; then how the spell was broken! Such a voice! It was like the sound of pots and pans when you expected to hear a lute."

The next day we bade farewell to the Rondout, and set out to cross the mountain to the east branch of the Neversink.

"We shall find tame waters compared with these, I fear,—a shriveled stream brawling along over loose stones, with few pools or deep places."

Our course was along the trail of the bark-men who had pursued the doomed hemlock to the last tree at the head of the valley. As we passed along, a red steer stepped out of the bushes into the road ahead of us, where the sunshine fell full upon him, and, with a half-scared, beautiful look, begged alms of salt. We passed the Haunted Shanty; but both it and the legend about it looked very tame at ten o'clock in the morning. After the road had faded out, we took to the bed of the stream to avoid the gauntlet of the underbrush, skipping up the mountain from boulder to boulder. Up and up we went, with frequent pauses and copious quaffing of the cold water. My soldier declared a "haunted val-

ley" would be a godsend; anything but endless dragging of one's self up such an Alpine stairway. The winter wren, common all through the woods. peeped and scolded at us as we sat blowing near the summit, and the oven-bird, not quite sure as to what manner of creatures we were, hopped down a limb to within a few feet of us and had a good look, then darted off into the woods to tell the news. I also noted the Canada warbler, the chestnut-sided warbler, and the black-throated blue-back, -the latter most abundant of all. Up these mountain brooks, too, goes the belted kingfisher, swooping around through the woods when he spies the fisherman, then wheeling into the open space of the stream and literally making a "blue streak" down under the branches.

At last the stream which had been our guide was lost under the rocks, and before long the top was gained. These mountains are horse-shaped. There is always a broad, smooth back, more or less depressed, which the hunter aims to bestride; rising rapidly from this is pretty sure to be a rough, curving ridge that carries the forest up to some highest peak. We were lucky in hitting the saddle, but we could see a little to the south the sharp, steep neck of the steed sweeping up toward the sky with an erect mane of balsam fir.

These mountains are steed-like in other respects: any timid and vacillating course with them is sure

to get you into trouble. One must strike out boldly, and not be disturbed by the curveting and shying; the valley you want lies squarely behind them, but farther off than you think, and if you do not go for it resolutely, you will get bewildered and the mountain will play you a trick.

I may say that Aaron and I kept a tight rein and a good pace till we struck a water-course on the other side, and that we clattered down it with no want of decision till it emptied into a larger stream which we knew must be the East Branch. An abandoned fishpole lay on the stones, marking the farthest point reached by some fisherman. According to our reckoning, we were five or six miles above the settlement, with a good depth of primitive woods all about us.

We kept on down the stream, now and then pausing at a likely place to take some trout for dinner, and with an eye out for a good camping-ground. Many of the trout were full of ripe spawn, and a few had spawned, the season with them being a little later than on the stream we had left, perhaps because the water was less cold. Neither had the creek here any such eventful and startling career. It led, indeed, quite a humdrum sort of life under the roots and fallen treetops and among the loose stones. At rare intervals it beamed upon us from some still reach or dark cover, and won from us our best attention in return.

The day was quite spent before we had pitched our air-woven tent and prepared our dinner, and we gathered boughs for our bed in the gloaming. Breakfast had to be caught in the morning and was not served early, so that it was nine o'clock before we were in motion. A little bird, the red-eyed vireo, warbled most cheerily in the trees above our camp, and, as Aaron said, "gave us a good send-off." We kept down the stream, following the inevitable bark road.

My companion had refused to look at another "dividing ridge" that had neither path nor way, and henceforth I must keep to the open road or travel alone. Two hours' tramp brought us to an old clearing with some rude, tumble-down log buildings that many years before had been occupied by the bark and lumber men. The prospect for trout was so good in the stream hereabouts, and the scene so peaceful and inviting, shone upon by the dreamy August sun, that we concluded to tarry here until the next day. It was a page of pioneer history opened to quite unexpectedly. A dim footpath led us a few yards to a superb spring, in which a trout from the near creek had taken up his abode. We took possession of what had been a shingle-shop, attracted by its huge fireplace. We floored it with balsam boughs, hung its walls with our "traps," and sent the smoke curling again from its disused chimney.

The most musical and startling sound we heard in the woods greeted our ears that evening about sundown as we sat on a log in front of our quarters, the sound of slow, measured pounding in the valley below us. We did not know how near we were to human habitations, and the report of the lumberman's mallet, like the hammering of a great woodpecker, was music to the ear and news to the mind. The air was still and dense, and the silence such as alone broods over these little openings in the primitive woods. My soldier started as if he had heard a signal-gun. The sound, coming so far through the forest, sweeping over those great wind-harps of trees, became wild and legendary, though probably made by a lumberman driving a wedge or working about his mill.

We expected a friendly visit from porcupines that night, as we saw where they had freshly gnawed all about us; hence, when a red squirrel came and looked in upon us very early in the morning and awoke us by his snickering and giggling, my comrade cried out, "There is your porcupig." How the frisking red rogue seemed to enjoy what he had found! He looked in at the door and snickered, then in at the window, then peeked down from between the rafters and cachinnated till his sides must have ached; then struck an attitude upon the chimney, and fairly squealed with mirth and ridicule. In fact, he grew so obstreperous, and so disturbed

our repose, that we had to "shoo" him away with one of our boots. He declared most plainly that he had never before seen so preposterous a figure as we cut lying there in the corner of that old shanty.

The morning boded rain, the week to which we had limited ourselves drew near its close, and we concluded to finish our holiday worthily by a good square tramp to the railroad station, twenty-three miles distant, as it proved. Two miles brought us to stumpy fields, and to the house of the upper inhabitant. They told us there was a short cut across the mountain, but my soldier shook his head.

"Better twenty miles of Europe," said he, getting Tennyson a little mixed, "than one of Cathay, or Slide Mountain either."

Drops of the much-needed rain began to come down, and I hesitated in front of the woodshed.

"Sprinkling weather always comes to some bad end," said Aaron, with a reminiscence of an old couplet in his mind, and so it proved, for it did not get beyond a sprinkle, and the sun shone out before noon.

In the next woods I picked up from the middle of the road the tail and one hind leg of one of our native rats, the first I had ever seen except in a museum. An owl or fox had doubtless left it the night before. It was evident the fragments had once formed part of a very elegant and slender creature. The fur that remained (for it was not hair)

was tipped with red. My reader doubtless knows that the common rat is an importation, and that there is a native American rat, usually found much farther south than the locality of which I am writing, that lives in the woods, —a sylvan rat, very wild and nocturnal in his habits, and seldom seen even by hunters or woodmen. Its eyes are large and fine, and its form slender. It looks like only a far-off undegenerate cousin of the filthy creature that has come to us from the long-peopled Old World. Some creature ran between my feet and the fire toward morning, the last night we slept in the woods, and I have little doubt it was one of these wood-rats.

The people in these back settlements are almost as shy and furtive as the animals. Even the men look a little scared when you stop them by your questions. The children dart behind their parents when you look at them. As we sat on a bridge resting, — for our packs still weighed fifteen or twenty pounds each, — two women passed us with pails on their arms, going for blackberries. They filed by with their eyes down like two abashed nuns.

In due time we found an old road, to which we had been directed, that led over the mountain to the West Branch. It was a hard pull, sweetened by blackberries and a fine prospect. The snowbird was common along the way, and a solitary wild pigeon shot through the woods in front of us, recall-

ing the nests we had seen on the East Branch, little scaffoldings of twigs scattered all through the trees.

It was nearly noon when we struck the West Branch, and the sun was scalding hot. We knew that two and three pound trout had been taken there, and yet we wet not a line in its waters. The scene was primitive, and carried one back to the days of his grandfather, stumpy fields, log fences, log houses and barns. A boy twelve or thirteen years old came out of a house ahead of us eating a piece of bread and butter. We soon overtook him and held converse with him. He knew the land well, and what there was in the woods and the waters. He had walked out to the railroad station. fourteen miles distant, to see the cars, and back the same day. I asked him about the flies and mosquitoes, etc. He said they were all gone except the "blunder-heads;" there were some of them left yet.

"What are blunder-heads?" I inquired, sniffing new game.

"The pesky little fly that gets into your eye when you are a-fishing."

Ah, yes! I knew him well. We had got acquainted some days before, and I thanked the boy for the name. It is an insect that hovers before your eye as you thread the streams, and you are forever vaguely brushing at it under the delusion that it is a little spider suspended from your hat-

orim; and just as you want to see clearest, into your eye it goes, head and ears, and is caught between the lids. You miss your cast, but you catch a "blunder-head."

We paused under a bridge at the mouth of Biscuit Brook and ate our lunch, and I can recommend it to be as good a wayside inn as the pedestrian need look for. Better bread and milk than we had there I never expect to find. The milk was indeed so good that Aaron went down to the little log house under the hill a mile farther on and asked for more; and being told they had no cow, he lingered five minutes on the doorstone with his sooty pail in his hand, putting idle questions about the way and distance to the mother while he refreshed himself with the sight of a well-dressed and comely-looking young girl, her daughter.

"I got no milk," said he, hurrying on after me, "but I got something better, only I cannot divide it."

"I know what it is," replied I; "I heard her voice."

"Yes, and it was a good one, too. The sweetest sound I ever heard," he went on, "was a girl's voice after I had been four years in the army, and, by Jove! if I didn't experience something of the same pleasure in hearing this young girl speak after a week in the woods. She had evidently been out in the world and was bome on a visit. It was a

different look she gave me from that of the natives. This is better than fishing for trout," said he. "You drop in at the next house."

But the next house looked too unpromising.

"There is no milk there," said I, "unless they keep a goat."

"But could we not," said my facetious companion, "go it on that?"

A couple of miles beyond I stopped at a house that enjoyed the distinction of being clapboarded, and had the good fortune to find both the milk and the young lady. A mother and her daughter were again the only occupants save a babe in the cradle, which the young woman quickly took occasion to disclaim.

"It has not opened its dear eyes before since its mother left. Come to aunty," and she put out her hands.

The daughter filled my pail and the mother replenished our stock of bread. They asked me to sit and cool myself, and seemed glad of a stranger to talk with. They had come from an adjoining county five years before, and had carved their little clearing out of the solid woods.

"The men folks," the mother said, "came on ahead and built the house right among the big trees," pointing to the stumps near the door.

One no sooner sets out with his pack upon his back to tramp through the land than all objects and persons by the way have a new and curious interest

to him. The tone of his entire being is not a little elevated, and all his perceptions and susceptibilities quickened. I feel that some such statement is necessary to justify the interest that I felt in this backwoods maiden. A slightly pale face it was, strong and well arched, with a tender, wistful expression not easy to forget.

I had surely seen that face many times before in towns and cities, and in other lands, but I hardly expected to meet it here amid the stumps. What were the agencies that had given it its fine lines and its gracious intelligence amid these simple, primitive scenes? What did my heroine read, or think? or what were her unfulfilled destinies? She wore a sprig of prince's pine in her hair, which gave a touch peculiarly welcome.

"Pretty lonely," she said, in answer to my inquiry; "only an occasional fisherman in summer, and in winter — nobody at all."

And the little new schoolhouse in the woods farther on, with its half-dozen scholars and the girlish face of the teacher seen through the open door, — nothing less than the exhilaration of a journey on foot could have made it seem the interesting object it was. Two of the little girls had been to the spring after a pail of water, and came struggling out of the woods into the road with it as we passed. They set down their pail and regarded us with a half-curious, half-alarmed look.

"What is your teacher's name?" asked one of us.

"Miss Lucinde Josephine ——" began the redhaired one, then hesitated, bewildered, when the bright, dark-eyed one cut her short with "Miss Simms," and taking hold of the pail said, "Come on."

"Are there any scholars from above here?" I inquired.

"Yes, Bobbie and Matie," and they hastened toward the door.

We once more stopped under a bridge for refreshments, and took our time, knowing the train would not go on without us. By four o'clock we were across the mountain, having passed from the watershed of the Delaware into that of the Hudson. The next eight miles we had a down grade but a rough road, and during the last half of it we had blisters on the bottoms of our feet. It is one of the rewards of the pedestrian that, however tired he may be, he is always more or less refreshed by his journey. His physical tenement has taken an airing. His respiration has been deepened, his circulation quickened. A good draught has carried off the fumes and the vapors. One's quality is intensified; the color strikes in. At noon that day I was much fatigued; at night I was leg-weary and footsore, but a fresh, hardy feeling had taken possession of me that lasted for weeks.

VIII

BIRDS'-NESTING

IRDS'-NESTING is by no means a failure. even though you find no birds'-nests. You are sure to find other things of interest, plenty of them. A friend of mine says that, in his youth, he used to go hunting with his gun loaded for wild turkeys, and, though he frequently saw plenty of smaller game, he generally came home emptyhanded, because he was loaded only for turkeys. But the student of ornithology, who is also a lover of Nature in all her shows and forms, does not go out loaded for turkeys merely, but for everything that moves or grows, and is quite sure, therefore, to bag some game, if not with his gun, then with his eye, or his nose, or his ear. Even a crow's nest is not amiss, or a den in the rocks where the coons or the skunks live, or a log where a partridge drums, or the partridge himself starting up with spread tail, and walking a few yards in advance of you before he goes humming through the woods, or a woodchuck hole, with well beaten and worn entrance, and with the saplings gnawed and soiled about it, or the strong, fetid smell of the fox, which a sharp nose

detects here and there, and which is a good perfume in the woods. And then it is enough to come upon a spring in the woods and stoop down and drink of the sweet, cold water, and bathe your hands in it, or to walk along a trout brook, which has absorbed the shadows till it has itself become but a denser shade. Then I am always drawn out of my way by a ledge of rocks, and love nothing better than to explore the caverns and dens, or to sit down under the overhanging crags and let the wild scene absorb me.

There is a fascination about ledges! They are an unmistakable feature, and give emphasis and character to the scene. I feel their spell, and must pause awhile. Time, old as the hills and older, looks out of their scarred and weather-worn face. The woods are of to-day, but the ledges, in comparison, are of eternity. One pokes about them as he would about ruins, and with something of the same feeling. They are ruins of the fore world. Here the foundations of the hills were laid; here the earth-giants wrought and builded. They constrain one to silence and meditation; the whispering and rustling trees seem trivial and impertinent.

And then there are birds'-nests about ledges, too, exquisite mossy tenements, with white, pebbly eggs, that I can never gaze upon without emotion. The little brown bird, the phœbe, looks at you from her niche till you are within a few feet of her, when

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she darts away. Occasionally you may find the nest of some rare wood-warbler forming a little pocket in the apron of moss that hangs down over the damp rocks.

The sylvan folk seem to know when you are on a peaceful mission, and are less afraid than usual. Did not that marmot to-day guess that my errand did not concern him as he saw me approach from his cover in the bushes? But when he saw me pause and deliberately seat myself on the stone wall immediately over his hole, his confidence was much shaken. He apparently deliberated awhile, for I heard the leaves rustle as if he were making up his mind, when he suddenly broke cover and came for his hole full tilt. Any other animal would have taken to his heels and fled: but a woodchuck's heels do not amount to much for speed, and he feels his only safety is in his hole. On he came in the most obstinate and determined manner, and I dare say if I had sat down in his hole, would have attacked me unhesitatingly. This I did not give him a chance to do; but, not to be entirely outdone, attempted to set my feet on him in no very gentle manner; but he whipped into his den beneath me with a defiant snort. Farther on, a saucy chipmunk presumed upon my harmless character to an unwonted degree also. I had paused to bathe my hands and face in a little trout brook, and had set a tin cup, which I had partly filled with strawberries as I crossed the

field, on a stone at my feet, when along came the chipmunk as confidently as if he knew precisely where he was going, and, perfectly oblivious of my presence, cocked himself up on the rim of the cup and proceeded to eat my choicest berries. I remained motionless and observed him. He had eaten but two when the thought seemed to occur to him that he might be doing better, and he began to fill his pockets. Two, four, six, eight of my berries quickly disappeared, and the cheeks of the little vagabond swelled. But all the time he kept eating, that not a moment might be lost. Then he hopped off the cup. and went skipping from stone to stone till the brook was passed, when he disappeared in the woods. In two or three minutes he was back again, and went to stuffing himself as before; then he disappeared a second time, and I imagined told a friend of his, for in a moment or two along came a bobtailed chipmunk, as if in search of something, and passed up, and down, and around, but did not quite hit the spot. Shortly, the first returned a third time, and had now grown a little fastidious, for he began to sort over my berries, and to bite into them, as if to taste their quality. He was not long in loading up, however, and in making off again. But I had now got tired of the joke, and my berries were appreciably diminishing, so I moved away. What was most curious about the proceeding was, that the little poacher took different directions each time, and re-

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turned from different ways. Was this to elude pursuit, or was he distributing the fruit to his friends and neighbors about, astonishing them with strawberries for lunch?

But I am making slow headway toward finding the birds'-nests, for I had set out on this occasion in hopes of finding a rare nest, —the nest of the black-throated blue-backed warbler, which, it seemed, with one or two others, was still wanting to make the history of our warblers complete. The woods were extensive, and full of deep, dark tangles, and looking for any particular nest seemed about as hopeless a task as searching for a needle in a haystack, as the old saying is. Where to begin, and how? But the principle is the same as in looking for a hen's nest, —first find your bird, then watch its movements.

The bird is in these woods, for I have seen him scores of times, but whether he builds high or low, on the ground or in the trees, is all unknown to me. That is his song now, — "twe-twea-twe-e-e-a," with a peculiar summer languor and plaintiveness, and issuing from the lower branches and growths. Presently we — for I have been joined by a companion — discover the bird, a male, insecting in the top of a newly fallen hemlock. The black, white, and blue of his uniform are seen at a glance. His movements are quite slow compared with some of the warblers. If he will only betray the locality of that little domi-

cile where his plainly clad mate is evidently sitting, it is all we will ask of him. But this he seems in no wise disposed to do. Here and there, and up and down, we follow him, often losing him, and as often refinding him by his song; but the clew to his nest, how shall we get it? Does he never go home to see how things are getting on, or to see if his presence is not needed, or to take madam a morsel of food? No doubt he keeps within earshot, and a cry of distress or alarm from the mother bird would bring him to the spot in an instant. Would that some evil fate would make her cry, then! Presently he encounters a rival. His feedingground infringes upon that of another, and the two birds regard each other threateningly. This is a good sign, for their nests are evidently near.

Their battle-cry is a low, peculiar chirp, not very fierce, but bantering and confident. They quickly come to blows, but it is a very fantastic battle, and, as it would seem, indulged in more to satisfy their sense of honor than to hurt each other, for neither party gets the better of the other, and they separate a few paces and sing, and squeak, and challenge each other in a very happy frame of mind. The gauntlet is no sooner thrown down than it is again taken up by one or the other, and in the course of fifteen or twenty minutes they have three or four encounters, separating a little, then provoked to return again like two cocks, till finally they withdraw beyond

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hearing of each other, — both, no doubt, claiming the victory. But the secret of the nest is still kept. Once I think I have it. I catch a glimpse of a bird which looks like the female, and near by, in a small hemlock about eight feet from the ground, my eye detects a nest. But as I come up under it, I can see daylight through it, and that it is empty, — evidently only part finished, not lined or padded yet. Now if the bird will only return and claim it, the point will be gained. But we wait and watch in vain. The architect has knocked off to-day, and we must come again, or continue our search.

While loitering about here we were much amused by three chipmunks, who seemed to be engaged in some kind of game. It looked very much as if they were playing tag. Round and round they would go, first one taking the lead, then another, all goodnatured and gleeful as schoolboys. There is one thing about a chipmunk that is peculiar: he is never more than one jump from home. Make a dive at him anywhere and in he goes. He knows where the hole is, even when it is covered up with leaves. There is no doubt, also, that he has his own sense of humor and fun, as what squirrel has not? I have watched two red squirrels for a half hour coursing through the large trees by the roadside where branches interlocked, and engaged in a game of tag as obviously as two boys. As soon as the pursuer had come up with the pursued, and actually touched

him, the palm was his, and away he would go, taxing his wits and his speed to the utmost to elude his fellow.

Despairing of finding either of the nests of the two males, we pushed on through the woods to try our luck elsewhere. Before long, just as we were about to plunge down a hill into a dense, swampy part of the woods, we discovered a pair of the birds we were in quest of. They had food in their beaks, and, as we paused, showed great signs of alarm, indicating that the nest was in the immediate vicinity. This was enough. We would pause here and find this nest, anyhow. To make a sure thing of it, we determined to watch the parent birds till we had wrung from them their secret. So we doggedly crouched down and watched them, and they watched us. It was diamond cut diamond. But as we felt constrained in our movements, desiring, if possible, to keep so quiet that the birds would, after a while, see in us only two harmless stumps or prostrate logs, we had much the worst of it. The mosquitoes were quite taken with our quiet, and knew us from logs and stumps in a moment. Neither were the birds deceived, not even when we tried the Indian's tactics, and plumed ourselves with green branches. Ah, the suspicious creatures, how they watched us with the food in their beaks, abstaining for one whole hour from ministering that precious charge which otherwise would have been visited every

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moment! Quite near us they would come at times, between us and the nest, eying us so sharply. Then they would move off, and apparently try to forget our presence. Was it to deceive us, or to persuade himself and mate that there was no serious cause for alarm, that the male would now and then strike up in full song and move off to some distance through the trees? But the mother bird did not allow herself to lose sight of us at all, and both birds, after carrying the food in their beaks a long time, would swallow it themselves. Then they would obtain another morsel and apparently approach very near the nest, when their caution or prudence would come to their aid, and they would swallow the food and hasten away. I thought the young birds would cry out, but not a syllable from them. Yet this was, no doubt, what kept the parent birds away from the nest. The clamor the young would have set up on the approach of the old with food would have exposed everything.

After a time I felt sure I knew within a few feet where the nest was concealed. Indeed, I thought I knew the identical bush. Then the birds approached each other again and grew very confidential about another locality some rods below. This puzzled us, and, seeing the whole afternoon might be spent in this manner, and the mystery unsolved, we determined to change our tactics and institute a thorough search of the locality. This procedure soon

brought things to a crisis, for, as my companion clambered over a log by a little hemlock, a few yards from where we had been sitting, with a cry of alarm out sprang the young birds from their nest in the hemlock, and, scampering and fluttering over the leaves, disappeared in different directions. This brought the parent birds on the scene in an agony of alarm. Their distress was pitiful. They threw themselves on the ground at our very feet, and fluttered, and cried, and trailed themselves before us, to draw us away from the place, or distract our attention from the helpless young. I shall not forget the male bird, how bright he looked, how sharp the contrast as he trailed his painted plumage there on the dry leaves. Apparently he was seriously disabled. He would start up as if exerting every muscle to fly away, but no use: down he would come, with a helpless, fluttering motion, before he had gone two yards, and apparently you had only to go and pick him up. But before you could pick him up, he had recovered somewhat and flown a little farther; and thus, if you were tempted to follow him, you would soon find yourself some distance from the scene of the nest, and both old and young well out of your reach. The female bird was not less solicitous, and practiced the same arts upon us to decoy us away, but her dull plumage rendered her less noticeable. The male was clad in holiday attire, but his mate in an every-day working-garb.

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The nest was built in the fork of a little hemlock, about fifteen inches from the ground, and was a thick, firm structure, composed of the finer material of the woods, with a lining of very delicate roots or rootlets. There were four young birds and one addled egg. We found it in a locality about the head-waters of the eastern branch of the Delaware, where several other of the rarer species of warblers, such as the mourning ground, the Blackburnian, the chestnut-sided, and the speckled Canada, spend the summer and rear their young.

Defunct birds'-nests are easy to find; when the leaves fall, then they are in every bush and tree; and one wonders how he missed them; but a live nest, how it eludes one! I have read of a noted criminal who could hide himself pretty effectually in any room that contained the usual furniture; he would embrace the support of a table so as to seem part of it. The bird has studied the same art: it always blends its nest with the surroundings, and sometimes its very openness hides it; the light itself seems to conceal it. Then the birds build anew each year, and so always avail themselves of the present and latest combination of leaves and screens, of light and shade. What was very well concealed one season may be quite exposed the next.

Going a-fishing or a-berrying is a good introduction to the haunts of the birds, and to their nestingplaces. You put forth your hand for the berries,

and there is a nest; or your tread by the creeks starts the sandpiper or the water-thrush from the ground where its eggs are concealed, or some shy wood-warbler from a bush. One day, fishing down a deep wooded gorge, my hook caught on a limb overhead, and on pulling it down I found I had missed my trout, but had caught a hummingbird's nest. It was saddled on the limb as nicely as if it had been a grown part of it.

Other collectors beside the oologists are looking for birds'-nests, — the squirrels and owls and jays and crows. The worst depredator in this direction I know of is the fish crow, and I warn him to keep off my premises, and charge every gunner to spare him not. He is a small sneak-thief, and will rob the nest of every robin, wood thrush, and oriole he can come at. I believe he fishes only when he is unable to find birds' eggs or young birds. The genuine crow, the crow with the honest "caw," "caw," I have never caught in such small business, though the kingbird makes no discrimination between them, but accuses both alike.

THE HALCYON IN CANADA

THE halcyon or kingfisher is a good guide when I you go to the woods. He will not insure smooth water or fair weather, but he knows every stream and lake like a book, and will take you to the wildest and most unfrequented places. Follow his rattle and you shall see the source of every trout and salmon stream on the continent. You shall see the Lake of the Woods, and far-off Athabasca and Abbitibbe, and the unknown streams that flow into Hudson's Bay, and many others. His time is the time of the trout, too, namely, from April to September. He makes his subterranean nest in the bank of some favorite stream, and then goes on long excursions up and down and over woods and mountains to all the waters within reach, always fishing alone, the true angler that he is, his fellow keeping far ahead or behind, or taking the other branch. He loves the sound of a waterfall, and will sit a long time on a dry limb overhanging the pool below it, and, forgetting his occupation, brood upon his own memories and fancies.

The past season my friend and I took a hint from 205

him, and, when the dog-star began to blaze, set out for Canada, making a big detour to touch at salt water and to take New York and Boston on our way.

The latter city was new to me, and we paused there and angled a couple of days and caught an editor, a philosopher, and a poet, and might have caught more if we had had a mind to, for these waters are full of 'em, and big ones, too.

Coming from the mountainous regions of the Hudson, we saw little in the way of scenery that arrested our attention until we beheld the St. Lawrence, though one gets glimpses now and then, as he is whirled along through New Hampshire and Vermont, that make him wish for a fuller view. It is always a pleasure to bring to pass the geography of one's boyhood; 't is like the fulfilling of a dream; hence it was with partial eyes that I looked upon the Merrimac, the Connecticut, and the Passumpsic, - dusky, squaw-colored streams, whose names I had learned so long ago. The traveler opens his eyes a little wider when he reaches Lake Memphremagog, especially if he have the luck to see it under such a sunset as we did, its burnished surface glowing like molten gold. This lake is an immense trough that accommodates both sides of the fence, though by far the larger and longer part of it is in Canada. Its western shore is bold and picturesque, being skirted by a detachment of the Green Mountains, the main range of which is seen careering along the

horizon far to the southwest; to the east and north, whither the railroad takes you, the country is flat and monotonous.

The first peculiarity one notices about the farms in this northern country is the close proximity of the house and barn, in most cases the two buildings touching at some point, - an arrangement doubtless prompted by the deep snows and severe cold of this latitude. The typical Canadian dwelling-house is also presently met with on entering the Dominion, -a low, modest structure of hewn spruce logs, with a steep roof (containing two or more dormer windows) that ends in a smart curve, a hint taken from the Chinese pagoda. Even in the more costly brick or stone houses in the towns and vicinity this style is adhered to. It is so universal that one wonders if the reason of it is not in the climate also, the outward curve of the roof shooting the sliding snow farther away from the dwelling. It affords a wide projection, in many cases covering a veranda, and in all cases protecting the doors and windows without interfering with the light. In the better class of clapboarded houses the finish beneath the projecting eaves is also a sweeping curve, opposing and bracing that of the roof. A two-story country house, or a Mansard roof, I do not remember to have seen in Canada; but in places they have become so enamored of the white of the snow that they even whitewash the roofs of their buildings,

giving a cluster of them the impression, at a distance, of an encampment of great tents.

As we neared Point Levi, opposite Quebec, we got our first view of the St. Lawrence. "Iliad of givers!" exclaimed my friend. "Yet unsung!" The Hudson must take a back seat now, and a good way back. One of the two or three great watercourses of the globe is before you. No other river, I imagine, carries such a volume of pure cold water to the sea. Nearly all its feeders are trout and salmon streams, and what an airing and what a bleaching it gets on its course! Its history, its antecedents, are unparalleled. The great lakes are its camping-grounds; here its hosts repose under the sun and stars in areas like that of states and kingdoms, and it is its waters that shake the earth at Niagara. Where it receives the Saguenay it is twenty miles wide, and when it debouches into the Gulf it is a hundred. Indeed, it is a chain of Homeric sublimities from beginning to end. The great cataract is a fit sequel to the great lakes; the spirit that is born in vast and tempestuous Superior takes its full glut of power in that fearful chasm. If paradise is hinted in the Thousand Islands, hell is unveiled in that pit of terrors.

Its last escapade is the great rapids above Montreal, down which the steamer shoots with its breathless passengers, after which, inhaling and exhaling its mighty tides, it flows calmly to the sea.

The St. Lawrence is the type of nearly all the Canadian rivers, which are strung with lakes and rapids and cataracts, and are full of peril and adventure.

Here we reach the oldest part of the continent, geologists tell us: and here we encounter a fragment of the Old World civilization. Quebec presents the anomaly of a mediæval European city in the midst of the American landscape. This air, this sky, these clouds, these trees, the look of these fields, are what we have always known; but the houses, and streets, and vehicles, and language, and physiognomy are strange. As I walked upon the grand terrace I saw the robin and kingbird and song sparrow, and there in the tree, by the Wolfe Monument, our summer warbler was at home. I presently saw, also, that our republican crow was a British subject, and that he behaved here more like his European brother than he does in the States, being less wild and suspicious. On the Plains of Abraham excellent timothy grass was growing and cattle were grazing. We found a path through the meadow, and, with the exception of a very abundant weed with a blue flower, saw nothing new or strange, - nothing but the steep tin roofs of the city and its frowning wall and citadel. Sweeping around the far southern horizon, we could catch glimpses of mountains that were evidently in Maine or New Hampshire; while twelve or fifteen miles to the north the Laurentian ranges, dark and

formidable, arrested the eye. Quebec, or the walled part of it, is situated on a point of land shaped not unlike the human foot, looking northeast, the higher and bolder side being next the river, with the main part of the town on the northern slope toward the St. Charles. Its toes are well down in the mud where this stream joins the St. Lawrence, while the citadel is high on the instep and commands the whole field. The grand Battery is a little below, on the brink of the instep, so to speak, and the promenader looks down several hundred feet into the tops of the chimneys of this part of the lower town, and upon the great river sweeping by northeastward like another Amazon. The heel of our misshapen foot extends indefinitely toward Montreal. Upon it, on a level with the citadel, are the Plains of Abraham. It was up its high, almost perpendicular, sides that Wolfe clambered with his army, and stood in the rear of his enemy one pleasant September morning over a hundred years ago.

To the north and northeast of Quebec, and in full view from the upper parts of the city, lies a rich belt of agricultural country, sloping gently toward the river, and running parallel with it for many miles, called the Beauport slopes. The division of the land into uniform parallelograms, as in France, was a marked feature, and is so throughout the Dominion. A road ran through the midst of it lined with trees, and leading to the falls of the Montmorenci.

I imagine that this section is the garden of Quebec Beyond it rose the mountains. Our eyes looked wistfully toward them, for we had decided to penetrate the Canadian woods in that direction.

One hundred and twenty-five miles from Quebec as the loon flies, almost due north over unbroken spruce forests, lies Lake St. John, the cradle of the terrible Saguenay. On the map it looks like a great cuttlefish with its numerous arms and tentacula reaching out in all directions into the wilds. It is a large oval body of water thirty miles in its greatest diameter. The season here, owing to a sharp northern sweep of the isothermal lines, is two or three weeks earlier than at Quebec. The soil is warm and fertile, and there is a thrifty growing settlement here with valuable agricultural produce, but no market nearer than Quebec, two hundred and fifty miles distant by water, with a hard, tedious land journey besides. In winter the settlement can have little or no communication with the outside world.

To relieve this isolated colony and encourage further development of the St. John region, the Canadian government is building ¹ a wagon-road through the wilderness from Quebec directly to the lake, thus economizing half the distance, as the road when completed will form with the old route, the Sagueaay and St. Lawrence, one side of an equilateral triangle. A railroad was projected a few years

ago over nearly the same ground, and the contract to build it given to an enterprising Yankee, who pocketed a part of the money and has never been heard of since. The road runs for one hundred miles through an unbroken wilderness, and opens up scores of streams and lakes abounding with trout, into which, until the road-makers fished them, no white man had ever cast a hook.

It was a good prospect, and we resolved to commit ourselves to the St. John road. The services of a young fellow whom, by reason of his impracticable French name, we called Joe, were secured, and after a delay of twenty-four hours we were packed upon a Canadian buckboard with hard-tack in one bag and oats in another, and the journey began. It was Sunday, and we held up our heads more confidently when we got beyond the throng of welldressed church-goers. For ten miles we had a good stone road and rattled along it at a lively pace. In about half that distance we came to a large brick church, where we began to see the rural population or habitans. They came mostly in two-wheeled vehicles, some of the carts quite fancy, in which the young fellows rode complacently beside their girls. The two-wheeler predominates in Canada, and is of all styles and sizes. After we left the stone road, we began to encounter the hills that are preliminary to the mountains. The farms looked like the wilder and poorer parts of Maine or New

Hampshire. While Joe was getting a supply of hay of a farmer to take into the woods for his horse, I walked through a field in quest of wild strawberries. The season for them was past, it being the 20th of July, and I found barely enough to make me think that the strawberry here is far less pungent and high-flavored than with us.

The cattle in the fields and by the roadside looked very small and delicate, the effect, no doubt, of the severe climate. We saw many rude implements of agriculture, such as wooden plows shod with iron.

We passed several parties of men, women, and children from Quebec picnicking in the "bush." Here it was little more than a "bush;" but while in Canada we never heard the woods designated by any other term. I noticed, also, that when a distance of a few miles or of a fraction of a mile is to be designated, the French Canadian does not use the term "miles," but says it's so many acres through, or to the next place.

This fondness for the "bush" at this season seems quite a marked feature in the social life of the average Quebecker, and is one of the original French traits that holds its own among them. Parties leave the city in carts and wagons by midnight, or earlier, and drive out as far as they can the remainder of the night, in order to pass the whole Sunday in the woods, despite the mosquitoes and black flies. Those we saw seemed a decent, harmless set, whose

idea of a good time was to be in the open air, and as far into the "bush" as possible.

The post-road, as the new St. John's road is also called, begins twenty miles from Quebec at Stone-ham, the farthest settlement. Five miles into the forest upon the new road is the hamlet of La Chance, the last house till you reach the lake, one hundred and twenty miles distant. Our destination the first night was La Chance's; this would enable us to reach the Jacques Cartier River, forty miles farther, where we proposed to encamp, in the afternoon of the next day.

We were now fairly among the mountains, and the sun was well down behind the trees when we entered upon the post-road. It proved to be a wide, well-built highway, grass-grown, but in good condition. After an hour's travel we began to see signs of a clearing, and about six o'clock drew up in front of the long, low, log habitation of La Chance. Their hearthstone was outdoor at this season, and its smoke rose through the still atmosphere in a frail column toward the sky. The family was gathered here and welcomed us cordially as we drew up, the master shaking us by the hand as if we were old friends. His English was very poor, and our French was poorer, but, with Joe as a bridge between us, communication on a pinch was kept up. His wife could speak no English; but her true French politeness and graciousness was a language we could

readily understand. Our supper was got ready from our own supplies, while we sat or stood in the open air about the fire. The clearing comprised fifty or sixty acres of rough land in the bottom of a narrow valley, and bore indifferent crops of oats, barley, potatoes, and timothy grass. The latter was just in bloom, being a month or more later than with us. The primitive woods, mostly of birch with a sprinkling of spruce, put a high cavernous wall about the scene. How sweetly the birds sang, their notes seeming to have unusual strength and volume in this forest-bound opening! The principal singer was the white-throated sparrow, which we heard and saw everywhere on the route. He is called here le siffleur (the whistler), and very delightful his whistle was. From the forest came the evening hymn of a thrush, the olive-backed perhaps, like but less clear and full than the veery's.

In the evening we sat about the fire in rude homemade chairs, and had such broken and disjointed talk as we could manage. Our host had lived in Quebec and been a school-teacher there; he had wielded the birch until he lost his health, when he came here and the birches gave it back to him. He was now hearty and well, and had a family of six or seven children about him.

We were given a good bed that night, and fared better than we expected. About one o'clock I was awakened by suppressed voices outside the window.

Who could it be? Had a band of brigands surrounded the house? As our outfit and supplies had not been removed from the wagon in front of the door I got up, and, lifting one corner of the window paper, peeped out: I saw in the dim moonlight four or five men standing about engaged in low conversation. Presently one of the men advanced to the door and began to rap and call the name of our host. Then I knew their errand was not hostile: but the weird effect of that regular alternate rapping and calling ran through my dream all the rest of the night. Rat-tat, tat, tat, - La Chance; rattat, tat, - La Chance, five or six times repeated before La Chance heard and responded. Then the door opened and they came in, when it was jabber, jabber, jabber in the next room till I fell asleep.

In the morning, to my inquiry as to who the travelers were and what they wanted, La Chance said they were old acquaintances going a-fishing, and had stopped to have a little talk.

Breakfast was served early, and we were upon the road before the sun. Then began a forty-mile ride through a dense Canadian spruce forest over the drift and boulders of the paleozoic age. Up to this point the scenery had been quite familiar, — not much unlike that of the Catskills, — but now there was a change; the birches disappeared, except now and then a slender white or paper birch, and spruce everywhere prevailed. A narrow belt on each side

of the road had been blasted by fire, and the dry. white stems of the trees stood stark and stiff. The road ran pretty straight, skirting the mountains and threading the valleys, and hour after hour the dark, silent woods wheeled past us. Swarms of black flies - those insect wolves - waylaid us and hung to us till a smart spurt of the horse, where the road favored, left them behind. But a species of large horse-fly, black and vicious, it was not so easy to get rid of. When they alighted upon the horse, we would demolish them with the whip or with our felt hats, a proceeding the horse soon came to understand and appreciate. The white and gray Laurentian boulders lay along the roadside. The soil seemed as if made up of decayed and pulverized rock, and doubtless contained very little vegetable matter. It is so barren that it will never repay clearing and cultivating.

Our course was an up-grade toward the highlands that separate the watershed of St. John Lake from that of the St. Lawrence, and as we proceeded the spruce became smaller and smaller till the trees were seldom more than eight or ten inches in diameter. Nearly all of them terminated in a dense tuft at the top, beneath which the stem would be bare for several feet, giving them the appearance, my friend said, as they stood sharply defined along the crests of the mountains, of cannon swabs. Endless, interminable successions of these cannon swabs, each just

like its fellow, came and went, came and went, all day. Sometimes we could see the road a mile or two ahead, and it was as lonely and solitary as a path in the desert. Periods of talk and song and jollity were succeeded by long stretches of silence. A buckboard upon such a road does not conduce to a continuous flow of animal spirits. A good brace for the foot and a good hold for the hand is one's main lookout much of the time. We walked up the steeper hills, one of them nearly a mile long, then clung grimly to the board during the rapid descent of the other side.

We occasionally saw a solitary pigeon — in every instance a cock — leading a forlorn life in the wood, a hermit of his kind, or more probably a rejected and superfluous male. We came upon two or three broods of spruce grouse in the road, so tame that one could have knocked them over with poles. We passed many beautiful lakes; among others, the Two Sisters, one on each side of the road. At noon we paused at a lake in a deep valley, and fed the horse and had lunch. I was not long in getting ready my fishing tackle, and, upon a raft made of two logs pinned together, floated out upon the lake and quickly took all the trout we wanted.

Early in the afternoon we entered upon what is called *La Grande Brûlure*, or Great Burning, and to the desolation of living woods succeeded the greater desolation of a blighted forest. All the

mountains and valleys, as far as the eye could see, had been swept by the fire, and the bleached and ghostly skeletons of the trees alone met the gaze. The fire had come over from the Saguenay, a hundred or more miles to the east, seven or eight years before, and had consumed or blasted everything in its way. We saw the skull of a moose said to have perished in the fire. For three hours we rode through this valley and shadow of death. In the midst of it, where the trees had nearly all disappeared, and where the ground was covered with coarse wild grass, we came upon the Morancy River, a placid yellow stream twenty or twenty-five yards wide, abounding with trout. We walked a short distance along its banks and peered curiously into its waters. The mountains on either hand had been burned by the fire until in places their great granite bones were bare and white.

At another point we were within ear-shot, for a mile or more, of a brawling stream in the valley below us, and now and then caught a glimpse of foaming rapids or cascades through the dense spruce, — a trout stream that probably no man had ever fished, as it would be quite impossible to do so in such a maze and tangle of woods.

We neither met, nor passed, nor saw any travelers till late in the afternoon, when we descried far ahead a man on horseback. It was a welcome relief. It was like a sail at sea. When he saw us he drew

rein and awaited our approach. He, too, had probably tired of the solitude and desolation of the road. He proved to be a young Canadian going to join the gang of workmen at the farther end of the road.

About four o'clock we passed another small lake, and in a few moments more drew up at the bridge over the Jacques Cartier River, and our forty-mile ride was finished. There was a stable here that had been used by the road-builders, and was now used by the teams that hauled in their supplies. This would do for the horse; a snug log shanty built by an old trapper and hunter for use in the winter, a hundred yards below the bridge, amid the spruces on the bank of the river, when rebedded and refurnished, would do for us. The river at this point was a swift, black stream from thirty to forty feet wide, with a strength and a bound like a moose. It was not shrunken and emaciated, like similar streams in a cleared country, but full, copious, and strong. Indeed, one can hardly realize how the lesser water-courses have suffered by the denuding of the land of its forest covering, until he goes into the primitive woods and sees how bounding and athletic they are there. They are literally well fed, and their measure of life is full. In fact, a trout brook is as much a thing of the woods as a moose or deer, and will not thrive well in the open country.

Three miles above our camp was Great Lake

Jacques Cartier, the source of the river, a sheet of water nine miles long and from one to three wide; fifty rods below was Little Lake Jacques Cartier, an irregular body about two miles across. Stretching away on every hand, bristling on the mountains and darkling in the valleys, was the illimitable spruce woods. The moss in them covered the ground nearly knee-deep, and lay like newly fallen snow, hiding rocks and logs, filling depressions, and muffling the foot. When it was dry, one could find a most delightful couch anywhere.

The spruce seems to have colored the water, which is a dark amber color, but entirely sweet and pure. There needed no better proof of the latter fact than the trout with which it abounded, and their clear and vivid tints. In its lower portions near the St. Lawrence, the Jacques Cartier River is a salmon stream, but these fish have never been found as near its source as we were, though there is no apparent reason why they should not be.

There is perhaps no moment in the life of an angler fraught with so much eagerness and impatience as when he first finds himself upon the bank of a new and long-sought stream. When I was a boy and used to go a-fishing, I could seldom restrain my eagerness after I arrived in sight of the brook or pond, and must needs run the rest of the way. Then the delay in rigging my tackle was a trial my patience was never quite equal to. After I had

made a few casts, or had caught one fish, I could pause and adjust my line properly. I found some remnant of the old enthusiasm still in me when I sprang from the buckboard that afternoon and saw the strange river rushing by. I would have given something if my tackle had been rigged so that I could have tried on the instant the temper of the trout that had just broken the surface within easy reach of the shore. But I had anticipated this moment coming along, and had surreptitiously undone my rod-case and got my reel out of my bag, and was therefore a few moments ahead of my companion in making the first cast. The trout rose readily, and almost too soon we had more than enough for dinner, though no "rod-smashers" had been seen or felt. Our experience the next morning, and during the day and the next morning, in the lake, in the rapids, in the pools, was about the same: there was a surfeit of trout eight or ten inches long, though we rarely kept any under ten, but the big fish were lazy and would not rise; they were in the deepest water and did not like to get up.

The third day, in the afternoon, we had our first and only thorough sensation in the shape of a big trout. It came none too soon. The interest had begun to flag. But one big fish a week will do. It is a pinnacle of delight in the angler's experience that he may well be three days in working up to, and, once reached, it is three days down to the

old humdrum level again. At least it is with me. It was a dull, rainy day; the fog rested low upon the mountains, and the time hung heavily on our hands. About three o'clock the rain slackened and we emerged from our den, Joe going to look after his horse, which had eaten but little since coming into the woods, the poor creature was so disturbed by the loneliness and the black flies; I, to make preparations for dinner, while my companion lazily took his rod and stepped to the edge of the big pool in front of camp. At the first introductory cast, and when his fly was not fifteen feet from him upon the water, there was a lunge and a strike, and apparently the fisherman had hooked a boulder. I was standing a few yards below, engaged in washing out the coffee-pail, when I heard him call out :-

"I have got him now!"

"Yes, I see you have," said I, noticing his bending pole and moveless line; "when I am through, I will help you get loose."

"No, but I'm not joking," said he; "I have got a big fish."

I looked up again, but saw no reason to change my impression, and kept on with my work.

It is proper to say that my companion was a novice at fly-fishing, never having cast a fly till upon this trip.

Again he called out to me, but, deceived by his coolness and nonchalant tones, and by the lethargy

of the fish, I gave little heed. I knew very well that, if I had struck a fish that held me down in that way, I should have been going through a regular war-dance on that circle of boulder-tops, and should have scared the game into activity if the hook had failed to wake him up. But as the farce continued I drew near.

"Does that look like a stone or a log?" said my friend, pointing to his quivering line, slowly cutting the current up toward the centre of the pool.

My skepticism vanished in an instant, and I could hardly keep my place on the top of the rock.

"I can feel him breathe," said the now warming fisherman; "just feel of that pole!"

I put my eager hand upon the butt, and could easily imagine I felt the throb or pant of something alive down there in the black depths. But whatever it was moved about like a turtle. My companion was praying to hear his reel spin, but it gave out now and then only a few hesitating clicks. Still the situation was excitingly dramatic, and we were all actors. I rushed for the landing-net, but being unable to find it, shouted desperately for Joe, who came hurrying back, excited before he had learned what the matter was. The net had been left at the lake below, and must be had with the greatest dispatch. In the mean time I skipped about from boulder to boulder as the fish worked this way or that about the pool, peering into the water to catch

a glimpse of him, for he had begun to yield a little to the steady strain that was kept upon him. Presently I saw a shadowy, unsubstantial something just emerge from the black depths, then vanish. Then I saw it again, and this time the huge proportions of the fish were faintly outlined by the white facings of his fins. The sketch lasted but a twinkling; it was only a flitting shadow upon a darker background, but it gave me the profoundest Ike Walton thrill I ever experienced. I had been a fisher from my earliest boyhood. I came from a race of fishers; trout streams gurgled about the roots of the family tree, and there was a long accumulated and transmitted tendency and desire in me that that sight gratified. I did not wish the pole in my own hands; there was quite enough electricity overflowing from it and filling the air for me. The fish yielded more and more to the relentless pole, till, in about fifteen minutes from the time he was struck, he came to the surface, then made a little whirlpool where he disappeared again.

But presently he was up a second time, and lashing the water into foam as the angler led him toward the rock upon which I was perched net in hand. As I reached toward him, down he went again, and, taking another circle of the pool, came up still more exhausted, when, between his paroxysms, I carefully ran the net over him and lifted him ashore, amid, it is needless to say, the wildest enthusiasm of the

spectators. The congratulatory laughter of the loons down on the lake showed how even the outsiders sympathized. Much larger trout have been taken in these waters and in others, but this fish would have swallowed any three we had ever before caught.

"What does he weigh?" was the natural inquiry of each; and we took turns "hefting" him. But gravity was less potent to us just then than usual, and the fish seemed astonishingly light.

"Four pounds," we said; but Joe said more. So we improvised a scale: a long strip of board was balanced across a stick, and our groceries served as weights. A four-pound package of sugar kicked the beam quickly; a pound of coffee was added; still it went up; then a pound of tea, and still the fish had a little the best of it. But we called it six pounds, not to drive too sharp a bargain with fortune, and were more than satisfied. Such a beautiful creature! marked in every respect like a trout of six inches. We feasted our eyes upon him for half an hour. We stretched him upon the ground and admired him; we laid him across a log and withdrew a few paces and admired him; we hung him against the shanty, and turned our heads from side to side as women do when they are selecting dress goods, the better to take in the full force of the effect.

He graced the board or stump that afternoon, and was the sweetest fish we had taken. The flesh

was a deep salmon-color and very rich. We had before discovered that there were two varieties of trout in these waters, irrespective of size,—the red-fleshed and the white-fleshed,—and that the former were the better.

This success gave an impetus to our sport that carried us through the rest of the week finely. We had demonstrated that there were big trout here, and that they would rise to a fly. Henceforth big fish were looked to as a possible result of every excursion. To me, especially, the desire at least to match my companion, who had been my pupil in the art, was keen and constant. We built a raft of logs and upon it I floated out upon the lake, whipping its waters right and left, morning, noon, and night. Many fine trout came to my hand, and were released because they did not fill the bill.

The lake became my favorite resort, while my companion preferred rather the shore or the long still pool above, where there was a rude makeshift of a boat, made of common box-boards.

Upon the lake you had the wildness and solitude at arm's length, and could better take their look and measure. You became something apart from them; you emerged and had a vantage-ground like that of a mountain peak, and could contemplate them at your ease. Seated upon my raft and slowly carried by the current or drifted by the breeze, I had many a long, silent look into the face of the

wilderness, and found the communion good. I was alone with the spirit of the forest-bound lakes, and felt its presence and magnetism. I played hide-and-seek with it about the nooks and corners, and lay in wait for it upon a little island crowned with a clump of trees that was moored just to one side of the current near the head of the lake.

Indeed, there is no depth of solitude that the mind does not endow with some human interest. As in a dead silence the ear is filled with its own murmur, so amid these aboriginal scenes one's feelings and sympathies become external to him, as it were, and he holds converse with them. Then a lake is the ear as well as the eye of a forest. It is the place to go to listen and ascertain what sounds are abroad in the air. They all run quickly thither and report. If any creature had called in the forest for miles about, I should have heard it. At times I could hear the distant roar of water off beyond the outlet of the lake. The sound of the vagrant winds purring here and there in the tops of the spruces reached my ear. A breeze would come slowly down the mountain, then strike the lake, and I could see its footsteps approaching by the changed appearance of the water. How slowly the winds move at times, sauntering like one on a Sunday walk! A breeze always enlivens the fish; a dead calm and all pennants sink, your activity with your fly is ill-timed, and you soon take the hint and stop. Becalmed

upon my raft, I observed, as I have often done before, that the life of Nature ebbs and flows, comes and departs, in these wilderness scenes; one moment her stage is thronged and the next quite deserted. Then there is a wonderful unity of movement in the two elements, air and water. When there is much going on in one, there is quite sure to be much going on in the other. You have been casting, perhaps, for an hour with scarcely a jump or any sign of life anywhere about you, when presently the breeze freshens and the trout begin to respond, and then of a sudden all the performers rush in: ducks come sweeping by; loons laugh and wheel overhead, then approach the water on a long, gentle incline, plowing deeper and deeper into its surface, until their momentum is arrested, or converted into foam; the fish hawk screams; the bald eagle goes flapping by, and your eyes and hands are full. Then the tide ebbs, and both fish and fowl are gone.

Patiently whipping the waters of the lake from my rude float, I became an object of great interest to the loons. I had never seen these birds before in their proper habitat, and the interest was mutual. When they had paused on the Hudson during their spring and fall migrations, I had pursued them in my boat to try to get near them. Now the case was reversed; I was the interloper now, and they would come out and study me. Sometimes six or eight of them would be swimming about watching

my movements, but they were wary and made a wide circle. One day one of their number volunteered to make a thorough reconnoissance. I saw him leave his comrades and swim straight toward me. He came bringing first one eye to bear upon me, then the other. When about half the distance was passed over he began to waver and hesitate. To encourage him I stopped casting, and taking off my hat began to wave it slowly to and fro, as in the act of fanning myself. This started him again. - this was a new trait in the creature that he must scrutinize more closely. On he came, till all his markings were distinctly seen. With one hand I pulled a little revolver from my hip pocket, and when the loon was about fifty yards distant, and had begun to sidle around me, I fired: at the flash I saw two webbed feet twinkle in the air, and the loon was gone! Lead could not have gone down so quickly. The bullet cut across the circles where he disappeared. In a few moments he reappeared a couple of hundred vards away. "Ha-ha-ha-a-a," said he, "ha-ha-ha-a-a," and "ha-ha-ha-a-a," said his comrades, who had been looking on; and "ha-haha-a-a," said we all, echo included. He approached a second time, but not so closely, and when I began to creep back toward the shore with my heavy craft, pawing the water first upon one side, then the other, he followed, and with ironical laughter witnessed my efforts to stem the current at the head of the

lake. I confess it was enough to make a more solemn bird than the loon laugh, but it was no fun for me, and generally required my last pound of steam.

The loons flew back and forth from one lake to the other, and their voices were about the only notable wild sounds to be heard.

One afternoon, quite unexpectedly, I struck my big fish in the head of the lake. I was first advised of his approach by two or three trout jumping clear from the water to get out of his lordship's way. The water was not deep just there, and he swam so near the surface that his enormous back cut through. With a swirl he swept my fly under and turned.

My hook was too near home, and my rod too near a perpendicular to strike well. More than that, my presence of mind came near being unhorsed by the sudden apparition of the fish. If I could have had a moment's notice, or if I had not seen the monster, I should have fared better and the fish worse. I struck, but not with enough decision, and, before I could reel up, my empty hook came back. The trout had carried it in his jaws till the fraud was detected, and then spat it out. He came a second time and made a grand commotion in the water, but not in my nerves, for I was ready then, but failed to take the fly, and so to get his weight and beauty in these pages. As my luck failed me at the last, I will place my loss at the full extent of the law, and claim that nothing less than a ten-pounder was

spirited away from my hand that day. I might not have saved him, netless as I was upon my cumbrous raft; but I should at least have had the glory of the fight, and the consolation of the fairly vanquished.

These trout are not properly lake trout, but the common brook trout. The largest ones are taken with live bait through the ice in winter. The Indians and the habitans bring them out of the woods from here and from Snow Lake, on their toboggans, from two and a half to three feet long. They have kinks and ways of their own. About half a mile above camp we discovered a deep oval bay to one side of the main current of the river, that evidently abounded in big fish. Here they disported themselves. It was a favorite feeding-ground, and late every afternoon the fish rose all about it, making those big ripples the angler delights to see. A trout, when he comes to the surface, starts a ring about his own length in diameter; most of the rings in the pool, when the eye caught them, were like barrel hoops, but the haughty trout ignored all our best efforts; not one rise did we get. We were told of this pool on our return to Quebec, and that other anglers had a similar experience there. But occasionally some old fisherman, like a great advocate who loves a difficult case, would set his wits to work and bring into camp an enormous trout taken there.

I had been told in Quebec that I would not see a

bird in the woods, not a feather of any kind. But I knew I should, though they were not numerous. I saw and heard a bird nearly every day, on the tops of the trees about, that I think was one of the crossbills. The kingfisher was there ahead of us with his loud clicking reel. The osprey was there, too, and I saw him abusing the bald eagle, who had probably just robbed him of a fish. The yellow-rumped warbler I saw, and one of the kinglets was leading its lisping brood about through the spruces. In every opening the white-throated sparrow abounded. striking up his clear sweet whistle, at times so loud and sudden that one's momentary impression was that some farm boy was approaching, or was secreted there behind the logs. Many times, amid those primitive solitudes, I was quite startled by the human tone and quality of this whistle. It is little more than a beginning; the bird never seems to finish the strain suggested. The Canada jay was there also, very busy about some important private matter.

One lowery morning, as I was standing in camp, I saw a lot of ducks borne swiftly down by the current around the bend in the river a few rods above. They saw me at the same instant and turned toward the shore. On hastening up there, I found the old bird rapidly leading her nearly grown brood through the woods, as if to go around our camp. As I pursued them they ran squawking with outstretched

stubby wings, scattering right and left, and seeking a hiding-place under the logs and débris. I captured one and carried it into camp. It was just what Joe wanted; it would make a valuable decoy. So he kept it in a box, fed it upon oats, and took it out of the woods with him.

We found the camp we had appropriated was a favorite stopping-place of the carmen who hauled in supplies for the gang of two hundred road-builders. One rainy day near nightfall no less than eight carts drew up at the old stable, and the rain-soaked drivers, after picketing and feeding their horses, came down to our fire. We were away, and Joe met us on our return with the unwelcome news. We kept open house so far as the fire was concerned; but our roof was a narrow one at the best, and one or two leaky spots made it still narrower.

"We shall probably sleep out-of-doors to-night," said my companion, "unless we are a match for this posse of rough teamsters."

But the men proved to be much more peaceably disposed than the same class at home; they apologized for intruding, pleading the inclemency of the weather, and were quite willing, with our permission, to take up with pot-luck about the fire and leave us the shanty. They dried their clothes upon poles and logs, and had their fun and their bantering amid it all. An Irishman among them did about the only growling; he invited himself into

our quarters, and before morning had Joe's blanket about him in addition to his own.

On Friday we made an excursion to Great Lake Jacques Cartier, paddling and poling up the river in the rude box-boat. It was a bright, still morning after the rain, and everything had a new, fresh appearance. Expectation was ever on tiptoe as each turn in the river opened a new prospect before us. How wild, and shaggy, and silent it was! What fascinating pools, what tempting stretches of trouthaunted water! Now and then we would catch a glimpse of long black shadows starting away from the boat and shooting through the sunlit depths. But no sound or motion on shore was heard or seen. Near the lake we came to a long, shallow rapid, when we pulled off our shoes and stockings, and, with our trousers rolled above our knees. towed the boat up it, wincing and cringing amid the sharp, slippery stones. With benumbed feet and legs we reached the still water that forms the stem of the lake, and presently saw the arms of the wilderness open and the long deep blue expanse in their embrace. We rested and bathed, and gladdened our eyes with the singularly beautiful prospect. The shadows of summer clouds were slowly creeping up and down the sides of the mountains that hemmed it in. On the far eastern shore, near the head, banks of what was doubtless white sand shone dimly in the sun, and the illusion that there

was a town nestled there haunted my mind constantly. It was like a section of the Hudson below the Highlands, except that these waters were bluer and colder, and these shores darker, than even those Sir Hendrik first looked upon; but surely one felt, a steamer will round that point presently, or a sail drift into view! We paddled a mile or more up the east shore, then across to the west, and found such pleasure in simply gazing upon the scene that our rods were quite neglected. We did some casting after a while, but raised no fish of any consequence till we were in the outlet again, when they responded so freely that the "disgust of trout" was soon upon us

At the rapids, on our return, as I was standing to my knees in the swift, cold current, and casting into a deep hole behind a huge boulder that rose four or five feet above the water amidstream, two trout, one of them a large one, took my flies, and, finding the fish and the current united too strong for my tackle, I sought to gain the top of the boulder, in which attempt I got wet to my middle and lost my fish. After I had gained the rock, I could not get away again with my clothes on without swimming, which, to say nothing of wet garments the rest of the way home, I did not like to do amid those rocks and swift currents; so, after a vain attempt to communicate with my companion above the roar of the water, I removed my clothing, left it together with my

tackle upon the rock, and by a strong effort stemmed the current and reached the shore. The boat was a hundred yards above, and when I arrived there my teeth were chattering with the cold, my feet were numb with bruises, and the black flies were making the blood stream down my back. We hastened back with the boat, and, by wading out into the current again and holding it by a long rope, it swung around with my companion aboard, and was held in the eddy behind the rock. I clambered up, got my clothes on, and we were soon shooting downstream toward home; but the winter of discontent that shrouded one half of me made sad inroads upon the placid feeling of a day well spent that enveloped the other, all the way to camp.

That night something carried off all our fish,—doubtless a fisher or lynx, as Joe had seen an animal of some kind about camp that day.

I must not forget the two red squirrels that frequented the camp during our stay, and that were so tame they would approach within a few feet of us and take the pieces of bread or fish tossed to them. When a particularly fine piece of hard-tack was secured, they would spin off to their den with it somewhere near by.

Caribou abound in these woods, but we saw only their tracks; and of bears, which are said to be plentiful, we saw no signs.

Saturday morning we packed up our traps and 237

started on our return, and found that the other side of the spruce-trees and the vista of the lonely road going south were about the same as coming north. But we understood the road better and the buckboard better, and our load was lighter, hence the distance was more easily accomplished.

I saw a solitary robin by the roadside, and wondered what could have brought this social and half-domesticated bird so far into these wilds. In La Grande Brûlure, a hermit thrush perched upon a dry tree in a swampy place and sang most divinely. We paused to listen to his clear, silvery strain poured out without stint upon that unlistening solitude. I was half persuaded I had heard him before on first entering the woods.

We nooned again at No Man's Inn on the banks of a trout lake, and fared well and had no reckoning to pay. Late in the afternoon we saw a lonely pedestrian laboring up a hill far ahead of us. When he heard us coming he leaned his back against the bank, and was lighting his pipe as we passed. He was an old man, an Irishman, and looked tired. He had come from the farther end of the road, fifty miles distant, and had thirty yet before him to reach town. He looked the dismay he evidently felt when, in answer to his inquiry, we told him it was yet ten miles to the first house, La Chance's. But there was a roof nearer than that, where he doubtless passed the night, for he did not claim hospitality at

the cabin of La Chance. We arrived there betimes, but found the "spare bed" assigned to other guests; so we were comfortably lodged upon the haymow. One of the boys lighted us up with a candle and made level places for us upon the hay.

La Chance was one of the game wardens, or constables appointed by the government to see the game laws enforced. Joe had not felt entirely at his ease about the duck he was surreptitiously taking to town, and when, by its "quack, quack," it called upon La Chance for protection, he responded at once. Joe was obliged to liberate it then and there, and to hear the law read and expounded, and be threatened till he turned pale beside. It was evident that they follow the home government in the absurd practice of enforcing their laws in Canada. La Chance said he was under oath not to wink at or permit any violation of the law, and seemed to think that made a difference.

We were off early in the morning, and before we had gone two miles met a party from Quebec who must have been driving nearly all night to give the black flies an early breakfast. Before long a slow rain set in; we saw another party who had taken refuge in a house in a grove. When the rain had become so brisk that we began to think of seeking shelter ourselves, we passed a party of young men and boys — sixteen of them — in a cart turning back to town, water-soaked and heavy (for the poor horse

had all it could pull), but merry and good-natured. We paused awhile at the farmhouse where we had got our hay on going out, were treated to a drink of milk and some wild red cherries, and when the rain slackened drove on, and by ten o'clock saw the city eight miles distant, with the sun shining upon its steep tinned roofs.

The next morning we set out by steamer for the Saguenay, and entered upon the second phase of our travels, but with less relish than we could have wished. Scenery hunting is the least satisfying pursuit I have ever engaged in. What one sees in his necessary travels, or doing his work, or going a-fishing, seems worth while, but the famous view you go out in cold blood to admire is quite apt to elude you. Nature loves to enter a door another hand has opened; a mountain view, or a waterfall, I have noticed, never looks better than when one has just been warmed up by the capture of a big trout. If we had been bound for some salmon stream up the Saguenay, we should perhaps have possessed that generous and receptive frame of mind - that open house of the heart — which makes one "eligible to any good fortune," and the grand scenery would have come in as fit sauce to the salmon. An adventure, a bit of experience of some kind, is what one wants when he goes forth to admire woods and waters, - something to create a draught and make the embers of thought and feeling brighten. Nature,

like certain wary game, is best taken by seeming to pass by her intent on other matters.

But without any such errand, or occupation, or indirection, we managed to extract considerable satisfaction from the view of the lower St. Lawrence and the Saguenay.

We had not paid the customary visit to the falls of the Montmorenci, but we shall see them after all, for before we are a league from Quebec they come into view on the left. A dark glen or chasm there at the end of the Beauport Slopes seems suddenly to have put on a long white apron. By intently gazing, one can see the motion and falling of the water, though it is six or seven miles away. There is no sign of the river above or below but this trembling white curtain of foam and spray.

It was very sultry when we left Quebec, but about noon we struck much clearer and cooler air, and soon after ran into an immense wave or puff of fog that came drifting up the river and set all the fog-guns booming along shore. We were soon through it into clear, crisp space, with room enough for any eye to range in. On the south the shores of the great river appear low and uninteresting, but on the north they are bold and striking enough to make it up, —high, scarred, unpeopled mountain ranges the whole way. The points of interest to the eye in the broad expanse of water were the white porpoises that kept rolling, rolling in the distance, all

day. They came up like the perimeter of a great wheel that turns slowly and then disappears. From mid-forenoon we could see far ahead an immense column of yellow smoke rising up and flattening out upon the sky and stretching away beyond the horizon. Its form was that of some aquatic plant that shoots a stem up through the water, and spreads its broad leaf upon the surface. This smoky lily-pad must have reached nearly to Maine. It proved to be in the Indian country in the mountains beyond the mouth of the Saguenay, and must have represented an immense destruction of forest timber.

The steamer is two hours crossing the St. Lawrence from Rivière du Loup to Tadousac. The Saguenay pushes a broad sweep of dark blue water down into its mightier brother that is sharply defined from the deck of the steamer. The two rivers seem to touch, but not to blend, so proud and haughty is this chieftain from the north. On the mountains above Tadousac one could see banks of sand left by the ancient seas. Naked rock and sterile sand are all the Tadousacker has to make his garden of, so far as I observed. Indeed, there is no soil along the Saguenay until you get to Ha-ha Bay, and then there is not much, and poor quality at that.

What the ancient fires did not burn the ancient seas have washed away. I overheard an English resident say to a Yankee tourist, "You will think

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you are approaching the end of the world up here." It certainly did suggest something apocryphal or antemundane, - a segment of the moon or of a cleft asteroid, matter dead or wrecked. The worldbuilders must have had their foundry up in this neighborhood, and the bed of this river was doubtless the channel through which the molten granite flowed. Some mischief-loving god has let in the sea while things were vet red-hot, and there has been a time here. But the channel still seems filled with water from the mid-Atlantic, cold and blue-black, and in places between seven and eight thousand feet deep (one and a half miles). In fact, the enormous depth of the Saguenav is one of the wonders of physical geography. It is as great a marvel in its way as Niagara.

The ascent of the river is made by night, and the traveler finds himself in Ha-ha Bay in the morning. The steamer lies here several hours before starting on her return trip, and takes in large quantities of white birch wood, as she does also at Tadousac. The chief product of the country seemed to be huckleberries, of which large quantities are shipped to Quebec in rude board boxes holding about a peck each. Little girls came aboard or lingered about the landing with cornucopias of birch-bark filled with red raspberries; five cents for about half a pint was the usual price. The village of St. Alphonse, where the steamer tarries, is

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a cluster of small, humble dwellings dominated, like all Canadian villages, by an immense church. Usually the church will hold all the houses in the village; pile them all up and they would hardly equal it in size; it is the one conspicuous object, and is seen afar; and on the various lines of travel one sees many more priests than laymen. They appear to be about the only class that stir about and have a good time. Many of the houses were covered with birch-bark, — the canoe birch, — held to its place by perpendicular strips of board or split poles.

A man with a horse and a buckboard persuaded us to give him twenty-five cents each to take us two miles up the St. Alphonse River to see the salmon jump. There is a high saw-mill dam there which every salmon in his upward journey tries his hand at leaping. A raceway has been constructed around the dam for their benefit, which it seems they do not use till they have repeatedly tried to scale the dam. The day before our visit three dead fish were found in the pool below, killed by too much jumping. Those we saw had the jump about all taken out of them; several did not get more than half their length out of the water, and occasionally only an impotent nose would protrude from the foam. One fish made a leap of three or four feet and landed on an apron of the dam and tumbled helplessly back; he shot up like a bird and rolled back

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like a clod. This was the only view of salmon, the buck of the rivers, we had on our journey.

It was a bright and flawless midsummer day that we sailed down the Saguenay, and nothing was wanting but a good excuse for being there. The river was as lonely as the St. John's road; not a sail or a smokestack the whole sixty-five miles. The scenery culminates at Cape Trinity, where the rocks rise sheer from the water to a height of eighteen hundred feet. This view dwarfed anything I had ever before seen. There is perhaps nothing this side the Yosemite chasm that equals it, and, emptied of its water, this chasm would far surpass that famous cañon, as the river here is a mile and a quarter deep. The bald eagle nests in the niches in the precipice secure from any intrusion. Immense blocks of the rock had fallen out, leaving areas of shadow and clinging overhanging masses that were a terror and fascination to the eye. There was a great fall a few years ago, just as the steamer had passed from under and blown her whistle to awake the echoes. The echo came back, and with it a part of the mountain that astonished more than it delighted the lookers-on. The pilot took us close around the base of the precipice that we might fully inspect it. And here my eyes played me a trick the like of which they had never done before. One of the boys of the steamer brought to the forward deck his hands full of stones, that the curious ones among the pas-

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sengers might try how easy it was to throw one ashore. "Any girl ought to do it," I said to myself, after a man had tried and had failed to clear half the distance. Seizing a stone, I cast it with vigor and confidence, and as much expected to see it smite the rock as I expected to live. "It is a good while getting there," I mused, as I watched its course: down, down it went; there, it will ring upon the granite in half a breath; no, down - into the water, a little more than halfway! "Has my arm lost its cunning?" I said, and tried again and again, but with like result. The eye was completely at fault. There was a new standard of size before it to which it failed to adjust itself. The rock is so enormous and towers so above you that you get the impression it is much nearer than it actually is. When the eye is full it says, "Here we are," and the hand is ready to prove the fact; but in this case there is an astonishing discrepancy between what the eye reports and what the hand finds out.

Cape Eternity, the wife of this colossus, stands across a chasm through which flows a small tributary of the Saguenay, and is a head or two shorter, as becomes a wife, and less rugged and broken in outline.

From Rivière du Loup, where we passed the night and ate our first "Tommy-cods," our thread of travel makes a big loop around New Brunswick

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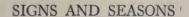
to St. John, thence out and down through Maine to Boston,—a thread upon which many delightful excursions and reminiscences might be strung. We traversed the whole of the valley of the Metapedia, and passed the doors of many famous salmon streams and rivers, and heard everywhere the talk they inspire; one could not take a nap in the car for the excitement of the big fish stories he was obliged to overhear.

The Metapedia is a most enticing-looking stream; its waters are as colorless as melted snow; I could easily have seen the salmon in it as we shot along, if they had come out from their hiding-places. It was the first white-water stream we had seen since leaving the Catskills; for all the Canadian streams are black or brown, either from the iron in the soil or from the leechings of the spruce swamps. But in New Brunswick we saw only these clear, silvershod streams; I imagined they had a different ring or tone also. The Metapedia is deficient in good pools in its lower portions; its limpid waters flowing with a tranquil murmur over its wide, evenly paved bed for miles at a stretch. The salmon pass over these shallows by night and rest in the pools by day. The Restigouche, which it joins, and which is a famous salmon stream and the father of famous salmon streams, is of the same complexion and a delight to look upon. There is a noted pool where the two join, and one can sit upon the railroad

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bridge and count the noble fish in the lucid depths below. The valley here is fertile, and has a cultivated, well-kept look.

We passed the Jacquet, the Belledune, the Nepissisquit, the Miramichi ("happy retreat") in the night, and have only their bird-call names to report.





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A SHARP LOOKOUT

NE has only to sit down in the woods or the fields, or by the shore of the river or the lake, and nearly everything of interest will come round to him, - the birds, the animals, the insects; and presently, after his eye has got accustomed to the place, and to the light and shade, he will probably see some plant or flower that he has sought in vain, and that is a pleasant surprise to him. So, on a large scale, the student and lover of nature has this advantage over people who gad up and down the world, seeking some novelty or excitement; he has only to stay at home and see the procession pass. The great globe swings around to him like a revolving showcase; the change of the seasons is like the passage of strange and new countries; the zones of the earth, with all their beauties and marvels, pass one's door, and linger long in the passing. What a voyage is this we make without leaving for a night our own fireside! St. Pierre well says that a sense of the power and mystery of nature shall spring up

as fully in one's heart after he has made the circuit of his own field as after returning from a voyage round the world. I sit here amid the junipers of the Hudson, with purpose every year to go to Florida, or to the West Indies, or to the Pacific coast, vet the seasons pass and I am still loitering, with a halfdefined suspicion, perhaps, that, if I remain quiet and keep a sharp lookout, these countries will come to me. I may stick it out vet, and not miss much after all. The great trouble is for Mohammed to know when the mountain really comes to him. Sometimes a rabbit or a jay or a little warbler brings the woods to my door. A loon on the river, and the Canada lakes are here; the sea-gulls and the fish hawk bring the sea; the call of the wild gander at night, what does it suggest? and the eagle flapping by, or floating along on a raft of ice, does not he bring the mountain? One spring morning five swans flew above my barn in single file, going northward, - an express train bound for Labrador. It was a more exhilarating sight than if I had seen them in their native haunts. They made a breeze in my mind, like a noble passage in a poem. How gently their great wings flapped; how easy to fly when spring gives the impulse! On another occasion I saw a line of fowls, probably swans, going northward, at such a height that they appeared like a faint, waving black line against the sky. They must have been at an altitude of two or three miles.

I was looking intently at the clouds to see which way they moved, when the birds came into my field of vision. I should never have seen them had they not crossed the precise spot upon which my eye was fixed. As it was near sundown, they were probably launched for an all-night pull. They were going with great speed, and as they swayed a little this way and that, they suggested a slender, all but invisible, aerial serpent cleaving the ether. What a highway was pointed out up there!— an easy grade from the Gulf to Hudson's Bay.

Then the typical spring and summer and autumn days, of all shades and complexions, - one cannot afford to miss any of them; and when looked out upon from one's own spot of earth, how much more beautiful and significant they are! Nature comes home to one most when he is at home: the stranger and traveler finds her a stranger and traveler also. One's own landscape comes in time to be a sort of outlying part of himself; he has sowed himself broadcast upon it, and it reflects his own moods and feelings; he is sensitive to the verge of the horizon: cut those trees, and he bleeds; mar those hills, and he suffers. How has the farmer planted himself in his fields: builded himself into his stone walls, and evoked the sympathy of the hills by his struggle! This home feeling, this domestication of nature, is important to the observer. This is the bird-lime with which he catches the bird; this is

the private door that admits him behind the scenes. This is one source of Gilbert White's charm, and of the charm of Thoreau's "Walden."

The birds that come about one's door in winter, or that build in his trees in summer, what a peculiar interest they have! What crop have I sowed in Florida or in California, that I should go there to reap? I should be only a visitor, or formal caller upon nature, and the family would all wear masks. No; the place to observe nature is where you are; the walk to take to-day is the walk you took yesterday. You will not find just the same things: both the observed and the observer have changed; the ship is on another tack in both cases.

I shall probably never see another just such day as yesterday was, because one can never exactly repeat his observation, — cannot turn the leaf of the book of life backward, — and because each day has characteristics of its own. This was a typical March day, clear, dry, hard, and windy, the river rumpled and crumpled, the sky intense, distant objects strangely near; a day full of strong light, unusual; an extraordinary lightness and clearness all around the horizon, as if there were a diurnal aurora streaming up and burning through the sunlight; smoke from the first spring fires rising up in various directions; a day that winnowed the air, and left no film in the sky. At night, how the big March bellows did work! Venus was like a great lamp in

the sky. The stars all seemed brighter than usual, as if the wind blew them up like burning coals. Venus actually seemed to flare in the wind.

Each day foretells the next, if one could read the signs; to-day is the progenitor of to-morrow. When the atmosphere is telescopic, and distant objects stand out unusually clear and sharp, a storm is near. We are on the crest of the wave, and the depression follows quickly. It often happens that clouds are not so indicative of a storm as the total absence of clouds. In this state of the atmosphere the stars are unusually numerous and bright at night, which is also a bad omen.

I find this observation confirmed by Humboldt. "It appears," he says, "that the transparency of the air is prodigiously increased when a certain quantity of water is uniformly diffused through it." Again, he says that the mountaineers of the Alps "predict a change of weather when, the air being calm, the Alps covered with perpetual snow seem on a sudden to be nearer the observer, and their outlines are marked with great distinctness on the azure sky." He further observes that the same condition of the atmosphere renders distant sounds more audible.

There is one redness in the east in the morning that means storm, another that means wind. The former is broad, deep, and angry; the clouds look like a huge bed of burning coals just raked open;

the latter is softer, more vapory, and more widely extended. Just at the point where the sun is going to rise, and some minutes in advance of his coming, there sometimes rises straight upward a rosy column; it is like a shaft of deeply dyed vapor, blending with and yet partly separated from the clouds, and the base of which presently comes to glow like the sun itself. The day that follows is pretty certain to be very windy. At other times the under sides of the eastern clouds are all turned to pink or rose-colored wool; the transformation extends until nearly the whole sky flushes, even the west glowing slightly; the sign is always to be interpreted as meaning fair weather.

The approach of great storms is seldom heralded by any striking or unusual phenomenon. The real weather gods are free from brag and bluster; but the sham gods fill the sky with portentous signs and omens. I recall one 5th of March as a day that would have filled the ancient observers with dreadful forebodings. At ten o'clock the sun was attended by four extraordinary sun-dogs. A large bright halo encompassed him, on the top of which the segment of a larger circle rested, forming a sort of heavy brilliant crown. At the bottom of the circle, and depending from it, was a mass of soft, glowing, iridescent vapor. On either side, like fragments of the larger circle, were two brilliant arcs. Altogether, it was the most portentous storm-

breeding sun I ever beheld. In a dark hemlock wood in a valley, the owls were hooting ominously, and the crows dismally cawing. Before night the storm set in, a little sleet and rain of a few hours' duration, insignificant enough compared with the signs and wonders that preceded it.

To what extent the birds or animals can foretell the weather is uncertain. When the swallows are seen hawking very high, it is a good indication; the insects upon which they feed venture up there only in the most auspicious weather. Yet bees will continue to leave the hive when a storm is imminent. I am told that one of the most reliable weather signs they have down in Texas is afforded by the ants. The ants bring their eggs up out of their underground retreats and expose them to the warmth of the sun to be hatched. When they are seen carrying them in again in great haste, though there be not a cloud in the sky, your walk or your drive must be postponed: a storm is at hand. There is a pas sage in Virgil that is doubtless intended to embody a similar observation, though none of his translators seem to have hit its meaning accurately: -

> "Sæpius et tectis penetralibus extulit ova Angustum formica terens iter;"

"Often also has the pismire making a narrow road brought forth her eggs out of the hidden recesses," is the literal translation of old John Martyn.

" Also the ant, incessantly traveling

The same straight way with the eggs of her hidden store,"

is one of the latest metrical translations. Dryden has it:—

"The careful ant her secret cell forsakes
And drags her eggs along the narrow tracks,"

which comes nearer to the fact. When a storm is coming, Virgil also makes his swallows skim low about the lake, which agrees with the observation above.

The critical moments of the day as regards the weather are at sunrise and sunset. A clear sunset is always a good sign; an obscured sun, just at the moment of going down after a bright day, bodes storm. There is much truth, too, in the saving that if it rain before seven, it will clear before eleven. Nine times in ten it will turn out thus. The best time for it to begin to rain or snow, if it wants to hold out, is about mid-forenoon. The great storms usually begin at this time. On all occasions the weather is very sure to declare itself before eleven o'clock. If you are going on a picnic, or are going to start on a journey, and the morning is unsettled, wait till ten and one half o'clock, and you will know what the remainder of the day will be. Midday clouds and afternoon clouds, except in the season of thunderstorms, are

pulse of returning life manifest; and he never seems to have been quite sure. He could not get his salt on the tail of this bird. He dug into the swamps. he peered into the water, he felt with benumbed hands for the radical leaves of the plants under the snow; he inspected the buds on the willows, the catkins on the alders; he went out before daylight of a March morning and remained out after dark: he watched the lichens and mosses on the rocks: he listened for the birds; he was on the alert for the first frog ("Can you be absolutely sure," he says, "that you have heard the first frog that croaked in the township?"); he stuck a pin here and he stuck a pin there, and there, and still he could not satisfy himself. Nor can any one. Life appears to start in several things simultaneously. Of a warm thawy day in February the snow is suddenly covered with myriads of snow fleas looking like black, new powder just spilled there. Or you may see a winged insect in the air. On the selfsame day the grass in the spring run and the catkins on the alders will have started a little; and if you look sharply, while passing along some sheltered nook or grassy slope where the sunshine lies warm on the bare ground, you will probably see a grasshopper or two. The grass hatches out under the snow, and why should not the grasshopper? At any rate, a few such hardy specimens may be found in the latter part of our milder winters

wherever the sun has uncovered a sheltered bit of grass for a few days, even after a night of ten or twelve degrees of frost. Take them in the shade, and let them freeze stiff as pokers, and when thawed out again they will hop briskly. And yet, if a poet were to put grasshoppers in his winter poem, we should require pretty full specifications of him, or else fur to clothe them with. Nature will not be cornered, yet she does many things in a corner and surreptitiously. She is all things to all men; she has whole truths, half truths, and quarter truths, if not still smaller fractions. The careful observer finds this out sooner or later. Old fox-hunters will tell you, on the evidence of their own eves, that there is a black fox and a silver-gray fox, two species, but there are not; the black fox is black when coming toward you or running from you, and silver gray at point-blank view, when the eye penetrates the fur; each separate hair is grav the first half and black the last. This is a sample of Nature's half truths.

Which are our sweet-scented wild flowers? Put your nose to every flower you pluck, and you will be surprised how your list will swell the more you smell. I plucked some wild blue violets one day, the *ovata* variety of the *sagittata*, that had a faint perfume of sweet clover, but I never could find another that had any odor. A pupil disputed with his teacher about the hepatica, claiming in opposi-

tion that it was sweet-scented. Some hepaticas are sweet-scented and some are not, and the perfume is stronger some seasons than others. After the unusually severe winter of 1880-81, the variety of hepatica called the sharp-lobed was markedly sweet in nearly every one of the hundreds of specimens I examined. A handful of them exhaled a most delicious perfume. The white ones that season were largely in the ascendant; and probably the white specimens of both varieties, one season with another, will oftenest prove sweet-scented. Darwin says a considerably larger proportion of white flowers are sweet-scented than of any other color. The only sweet violets I can depend upon are white, Viola blanda and Viola Canadensis, and white largely predominates among our other odorous wild flowers. All the fruit trees have white or pinkish blossoms. I recall no native blue flower of New York or New England that is fragrant except in the rare case of the arrow-leaved violet, above referred to. The earliest yellow flowers, like the dandelion and yellow violets, are not fragrant. Later in the season yellow is frequently accompanied with fragrance, as in the evening primrose, the yellow lady'sslipper, horned bladderwort, and others.

My readers probably remember that on a former occasion I have mildly taken the poet Bryant to task for leading his readers to infer that the early yellow violet is sweet-scented. In view of the

capriciousness of the perfume of certain of our wild flowers, I have during the past few years tried industriously to convict myself of error in respect to this flower. The round-leaved vellow violet was one of the earliest and most abundant wild flowers in the woods where my youth was passed, and whither I still make annual pilgrimages. I have pursued it on mountains and in lowlands, in "beechen woods" and amid the hemlocks; and while, with respect to its earliness, it overtakes the hepatica in the latter part of April, as do also the dog's-tooth violet and the claytonia, yet the first hepaticas, where the two plants grow side by side, bloom about a week before the first violet. And I have yet to find one that has an odor that could be called a perfume. A handful of them, indeed, has a faint, bitterish smell, not unlike that of the dandelion in quality; but if every flower that has a smell is sweet-scented, then every bird that makes a noise is a songster.

On the occasion above referred to, I also dissented from Lowell's statement, in "Al Fresco," that in early summer the dandelion blooms, in general, with the buttercup and the clover. I am aware that such criticism of the poets is small game, and not worth the powder. General truth, and not specific fact, is what we are to expect of the poets. Bryant's "Yellow Violet" poem is tender and appropriate, and such as only a real lover and ob-

usually harmless idlers and vagabonds. But more to be relied on than any obvious sign is that subtle perception of the condition of the weather which a man has who spends much of his time in the open air. He can hardly tell how he knows it is going to rain; he hits the fact as an Indian does the mark with his arrow, without calculating and by a kind of sure instinct. As you read a man's purpose in his face, so you learn to read the purpose of the weather in the face of the day.

In observing the weather, however, as in the diagnosis of disease, the diathesis is all-important. All signs fail in a drought, because the predisposition, the diathesis, is so strongly toward fair weather; and the opposite signs fail during a wet spell, because nature is caught in the other rut.

Observe the lilies of the field. Sir John Lubbock says the dandelion lowers itself after flowering, and lies close to the ground while it is maturing its seed, and then rises up. It is true that the dandelion lowers itself after flowering, retires from society, as it were, and meditates in seclusion; but after it lifts itself up again, the stalk begins anew to grow, it lengthens daily, keeping just above the grass till the fruit is ripened, and the little globe of silvery down is carried many inches higher than was the ring of golden flowers. And the reason is obvious. The plant depends upon the wind to scatter its seeds; every one of these little vessels.

spreads a sail to the breeze, and it is necessary that they be launched above the grass and weeds, amid which they would be caught and held did the stalk not continue to grow and outstrip the rival vegetation. It is a curious instance of foresight in a weed.

I wish I could read as clearly this puzzle of the button-balls (American plane-tree). Why has Nature taken such particular pains to keep these balls hanging to the parent tree intact till spring? What secret of hers has she buttoned in so securely? for these buttons will not come off. The wind cannot twist them off, nor warm nor wet hasten or retard them. The stem, or peduncle, by which the ball is held in the fall and winter, breaks up into a dozen or more threads or strands, that are stronger than those of hemp. When twisted tightly they make a little cord that I find impossible to break with my hands. Had they been longer, the Indian would surely have used them to make his bowstrings and all the other strings he required. One could hang himself with a small cord of them. (In South America, Humboldt saw excellent cordage made by the Indians from the petioles of the Chiquichiqui palm.) Nature has determined that these buttons should stay on. In order that the seeds of this tree may germinate, it is probably necessary that they be kept dry during the winter, and reach the ground after the season of warmth and moisture

is fully established. In May, just as the leaves and the new balls are emerging, at the touch of a warm, moist south wind, these spherical packages suddenly go to pieces - explode, in fact, like tiny bombshells that were fused to carry to this point - and scatter their seeds to the four winds. They vield at the same time a fine pollen-like dust that one would suspect played some part in fertilizing the new balls, did not botany teach him otherwise. At any rate, it is the only deciduous tree I know of that does not let go the old seed till the new is well on the way. It is plain why the sugar-berrytree or lotus holds its drupes all winter: it is in order that the birds may come and sow the seed. The berries are like small gravel-stones with a sugar coating, and a bird will not eat them till he is pretty hard pressed, but in late fall and winter the robins, cedar-birds, and bluebirds devour them readily, and of course lend their wings to scatter the seed far and wide. The same is true of juniper-berries, and the fruit of the bitter-sweet.

In certain other cases where the fruit tends to nang on during the winter, as with the bladder-nut and the honey-locust, it is probably because the frost and the perpetual moisture of the ground would rot or kill the germ. To beechnuts, chestnuts, and acorns the moisture of the ground and the covering of leaves seem congenial, though too much warmth and moisture often cause the acorns.

to germinate prematurely. I have found the ground under the oaks in December covered with nuts, all anchored to the earth by purple sprouts. But the winter which follows such untimely growths generally proves fatal to them.

One must always cross-question nature if he would get at the truth, and he will not get at it then unless he frames his questions with great skill. Most persons are unreliable observers because they put only leading questions, or vague questions.

Perhaps there is nothing in the operations of nature to which we can properly apply the term intelligence, yet there are many things that at first sight look like it. Place a tree or plant in an unusual position and it will prove itself equal to the occasion, and behave in an unusual manner: it will show original resources; it will seem to try intelligently to master the difficulties. Up by Furlow Lake, where I was camping out, a young hemlock had become established upon the end of a large and partly decayed log that reached many feet out into the lake. The young tree was eight or nine feet high; it had sent its roots down into the log and clasped it around on the outside, and had apparently discovered that there was water instead of soil immediately beneath it, and that its sustenance must be sought elsewhere and that quickly. Accordingly it had started one large root, by far the largest of all, for the shore along the top of the

log. This root, when I saw the tree, was six or seven feet long, and had bridged more than half the distance that separated the tree from the land.

Was this a kind of intelligence? If the shore had lain in the other direction, no doubt at all but the root would have started for the other side. I know a yellow pine that stands on the side of a steep hill. To make its position more secure, it has thrown out a large root at right angles with its stem directly into the bank above it, which acts as a stay or guy-rope. It was positively the best thing the tree could do. The earth has washed away so that the root where it leaves the tree is two feet above the surface of the soil.

Yet both these cases are easily explained, and without attributing any power of choice, or act of intelligent selection, to the trees. In the case of the little hemlock upon the partly submerged log, roots were probably thrown out equally in all directions; on all sides but one they reached the water and stopped growing; the water checked them; but on the land side, the root on the top of the log, not meeting with any obstacle of the kind, kept on growing, and thus pushing its way toward the shore. It was a case of survival, not of the fittest, but of that which the situation favored, — the fittest with reference to position.

So with the pine-tree on the side of the hill. It probably started its roots in all directions, but only

the one on the upper side survived and matured. Those on the lower side finally perished, and others lower down took their places. Thus the whole life upon the globe, as we see it, is the result of this blind groping and putting forth of Nature in every direction, with failure of some of her ventures and the success of others, the circumstances, the environments, supplying the checks and supplying the stimulus, the seed falling upon the barren places just the same as upon the fertile. No discrimination on the part of Nature that we can express in the terms of our own consciousness, but ceaseless experiments in every possible direction. The only thing inexplicable is the inherent impulse to experiment, the original push, the principle of Life.

The good observer of nature holds his eye long and firmly to the point, as one does when looking at a puzzle picture, and will not be baffled. The cat catches the mouse, not merely because she watches for him, but because she is armed to catch him and is quick. So the observer finally gets the fact, not only because he has patience, but because his eye is sharp and his inference swift. Many a shrewd old farmer looks upon the milky way as a kind of weathercock, and will tell you that the way it points at night indicates the direction of the wind the following day. So, also, every new moon is either a dry moon or a wet moon, dry if a powder-horn would hang upon the lower limb, wet if it

would not; forgetting the fact that, as a rule, when it is dry in one part of the continent it is wet in some other part, and vice versa. When he kills his hogs in the fall, if the pork be very hard and solid, he predicts a severe winter; if soft and loose, the opposite; again overlooking the fact that the kind of food and the temperature of the fall make the pork hard or make it soft. So with a hundred other signs, all the result of hasty and incomplete observations.

One season, the last day of December was very warm. The bees were out of the hive, and there was no frost in the air or in the ground. I was walking in the woods, when as I paused in the shade of a hemlock-tree I heard a sound proceed from beneath the wet leaves on the ground but a few feet from me that suggested a frog. Following it cautiously up, I at last determined upon the exact spot whence the sound issued; lifting up the thick layer of leaves, there sat a frog - the wood frog, one of the first to appear in the marshes in spring, and which I have elsewhere called the "clucking frog" -in a little excavation in the surface of the leaf mould. As it sat there, the top of its back was level with the surface of the ground. This, then, was its hibernaculum; here it was prepared to pass the winter, with only a coverlid of wet matted leaves between it and zero weather. Forthwith I set up as a prophet of warm weather, and among other things

predicted a failure of the ice crop on the river: which, indeed, others, who had not heard frogs croak on the 31st of December, had also begun to predict. Surely, I thought, this frog knows what it is about: here is the wisdom of nature: it would have gone deeper into the ground than that if a severe winter was approaching; so I was not anxious about my coal-bin, nor disturbed by longings for Florida. But what a winter followed, the winter of 1885, when the Hudson became coated with ice nearly two feet thick, and when March was as cold as January! I thought of my frog under the hemlock and wondered how it was faring. So one day the latter part of March, when the snow was gone, and there was a feeling of spring in the air, I turned aside in my walk to investigate it. The matted leaves were still frozen hard, but I succeeded in lifting them up and exposing the frog. There it sat as fresh and unscathed as in the fall. The ground beneath and all about it was still frozen like a rock, but apparently it had some means of its own of resisting the frost. It winked and bowed its head when I touched it, but did not seem inclined to leave its retreat. Some days later, after the frost was nearly all out of the ground, I passed that way, and found my frog had come out of its seclusion and was resting amid the dry leaves. There was not much jump in it vet, but its color was growing lighter. A few more warm days, and its fellows, and

doubtless itself too, were croaking and gamboling in the marshes.

This incident convinced me of two things; namely, that frogs know no more about the coming weather than we do, and that they do not retreat as deep into the ground to pass the winter as has been supposed. I used to think the muskrats could fore-tell an early and a severe winter, and have so written. But I am now convinced they cannot; they know as little about it as I do. Sometimes on an early and severe frost they seem to get alarmed and go to building their houses, but usually they seem to build early or late, high or low, just as the whim takes them.

In most of the operations of nature there is at least one unknown quantity; to find the exact value of this unknown factor is not so easy. The wool of the sheep, the fur of the animals, the feathers of the fowls, the husks of the maize, why are they thicker some seasons than others; what is the value of the unknown quantity here? Does it indicate a severe winter approaching? Only observations extending over a series of years could determine the point. How much patient observation it takes to settle many of the facts in the lives of the birds, animals, and insects! Gilbert White was all his life trying to determine whether or not swallows passed the winter in a torpid state in the mud at the bottom of ponds and marshes, and he died ignorant

of the truth that they do not. Do honey-bees injure the grape and other fruits by puncturing the skin for the juice? The most patient watching by many skilled eves all over the country has not yet settled the point. For my own part, I am convinced that they do not. The honey-bee is not the roughand-ready freebooter that the wasp and the bumblebee are: she has somewhat of feminine timidity, and leaves the first rude assaults to them. I knew the honey-bee was very fond of the locust blossoms, and that the trees hummed like a hive in the height of their flowering, but I did not know that the bumblebee was ever the sapper and miner that went ahead in this enterprise, till one day I placed myself amid the foliage of a locust and saw him savagely bite through the shank of the flower and extract the nectar, followed by a honey-bee that in every instance searched for this opening, and probed long and carefully for the leavings of her burly purvevor. The bumblebee rifles the dicentra and the columbine of their treasures in the same manner. namely, by slitting their pockets from the outside, and the honey-bee gleans after him, taking the small change he leaves. In the case of the locust, however, she usually obtains the honey without the aid of the larger bee.

Speaking of the honey-bee reminds me that the subtle and sleight-of-hand manner in which she fills her baskets with pollen and propolis is character-

istic of much of Nature's doings. See the bee going from flower to flower with the golden pellets on her thighs, slowly and mysteriously increasing in size. If the miller were to take the toll of the grist he grinds by gathering the particles of flour from his coat and hat, as he moved rapidly about, or catching them in his pockets, he would be doing pretty nearly what the bee does. The little miller dusts herself with the pollen of the flower, and then, while on the wing, brushes it off with the fine brush on certain of her feet, and by some jugglery or other catches it in her pollen basket. One needs to look long and intently to see through the trick. Pliny says they fill their baskets with their fore feet, and that they fill their fore feet with their trunks, but it is a much more subtle operation than this. I have seen the bees come to a meal barrel in early spring, and to a pile of hardwood sawdust before there was yet anything in nature for them to work upon, and, having dusted their coats' with the finer particles of the meal or the sawdust, hover on the wing above the mass till the little legerdemain feat was performed. Nature fills her baskets by the same sleight-of-hand, and the observer must be on the alert who would possess her secret. If the ancients had looked a little closer and sharper, would they ever have believed in spontaneous generation in the superficial way in which they did; that maggots, for instance, were gen-

erated spontaneously in putrid flesh? Could they not see the spawn of the blow-flies? Or, if Virgil had been a real observer of the bees, would be ever have credited, as he certainly appears to do, the fable of bees originating from the carcass of a steer? or that on windy days they carried little stones for ballast? or that two hostile swarms fought each other in the air? Indeed, the ignorance, or the false science, of the ancient observers, with regard to the whole subject of bees, is most remarkable: not false science merely with regard to their more hidden operations, but with regard to that which is open and patent to all who have eves in their heads, and have ever had to do with them. And Pliny names authors who had devoted their whole lives to the study of the subject.

But the ancients, like women and children, were not accurate observers. Just at the critical moment their eyes were unsteady, or their fancy, or their credulity, or their impatience, got the better of them, so that their science was half fact and half fable. Thus, for instance, because the young cuckoo at times appeared to take the head of its small foster mother quite into its mouth while receiving its food, they believed that it finally devoured her. Pliny, who embodied the science of his times in his natural history, says of the wasp that it carries spiders to its nest, and then sits upon them until it hatches its young from them. A little careful

observation would have shown him that this was only a half truth; that the whole truth was, that the spiders were entombed with the egg of the wasp to serve as food for the young when the egg had hatched.

What curious questions Plutarch discusses, as, for instance, "What is the reason that a bucket of water drawn out of a well, if it stands all night in the air that is in the well, is more cold in the morning than the rest of the water?" He could probably have given many reasons why "a watched pot never boils." The ancients, the same author says, held that the bodies of those killed by lightning never putrefy; that the sight of a ram quiets an enraged elephant; that a viper will lie stockstill if touched by a beechen leaf; that a wild bull grows tame if bound with the twigs of a fig-tree; that a hen purifies herself with straw after she has laid an egg; that the deer buries his cast-off horns; and that a goat stops the whole herd by holding a branch of the sea-holly in his mouth. They sought to account for such things without stopping to ask, Are they true? Nature was too novel, or else too fearful, to them to be deliberately pursued and hunted down. Their youthful joy in her, or their dread and awe in her presence, may be better than our scientific satisfaction, or cool wonder, or our vague, mysterious sense of "something far more deeply interfused;" yet we cannot change

with them if we would, and I, for one, would not if I could. Science does not mar nature. The railroad, Thoreau found, after all, to be about the wildest road he knew of, and the telegraph wires the best æolian harp out of doors. Study of nature deepens the mystery and the charm because it removes the horizon farther off. We cease to fear, perhaps, but how can one cease to marvel and to love?

The fields and woods and waters about one are a book from which he may draw exhaustless entertainment, if he will. One must not only learn the writing, he must translate the language, the signs, and the hieroglyphics. It is a very quaint and elliptical writing, and much must be supplied by the wit of the translator. At any rate, the lesson is to be well conned. Gilbert White said that that locality would be found the richest in zoölogical or botanical specimens which was most thoroughly examined. For more than forty years he studied the ornithology of his district without exhausting the subject. I thought I knew my own tramping-ground pretty well, but one April day, when I looked a little closer than usual into a small semi-stagnant lakelet where I had peered a hundred times before, I suddenly discovered scores of little creatures that were as new to me as so many nymphs would have been. They were partly fishshaped, from an inch to an inch and a half long, semi-transparent, with a dark brownish line visible

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the entire length of them (apparently the thread upon which the life of the animal hung, and by which its all but impalpable frame was held together), and suspending themselves in the water, or impelling themselves swiftly forward by means of a double row of fine, waving, hair-like appendages, that arose from what appeared to be the back,—a kind of undulating, pappus-like wings. What was it? I did not know. None of my friends or scientific acquaintances knew. I wrote to a learned man, an authority upon fish, describing the creature as well as I could. He replied that it was only a familiar species of phyllopodous crustacean, known as Eubranchipus vernalis.

I remember that our guide in the Maine woods, seeing I had names of my own for some of the plants, would often ask me the name of this and that flower for which he had no word; and that when I could recall the full Latin term, it seemed overwhelmingly convincing and satisfying to him. It was evidently a relief to know that these obscure plants of his native heath had been found worthy of a learned name, and that the Maine woods were not so uncivil and outlandish as they might at first seem: it was a comfort to him to know that he did not live beyond the reach of botany. In like manner I found satisfaction in knowing that my novel fish had been recognized and worthily named; the title conferred a new dignity at once; but when the

learned man added that it was familiarly called the "fairy shrimp," I felt a deeper pleasure. Fairylike it certainly was, in its aerial, unsubstantial look, and in its delicate, down-like means of locomotion; but the large head, with its curious folds, and its eves standing out in relief, as if on the heads of two pins, was gnome-like. Probably the fairy wore a mask, and wanted to appear terrible to human eyes. Then the creatures had sprung out of the earth as by magic. I found some in a furrow in a plowed field that had encroached upon a swamp. In the fall the plow had been there, and had turned up only the moist earth; now a little water was standing there, from which the April sunbeams had invoked these airy, fairy creatures. They belong to the crustaceans, but apparently no creature has so thin or impalpable a crust; you can almost see through them; certainly you can see what they have had for dinner, if they have eaten substantial food.

All we know about the private and essential natural history of the bees, the birds, the fishes, the animals, the plants, is the result of close, patient, quick-witted observation. Yet Nature will often elude one for all his pains and alertness. Thoreau, as revealed in his journal, was for years trying to settle in his own mind what was the first thing that stirred in spring, after the severe New England winter,—in what was the first sign or

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server of nature could feel or express; and Lowell's "Al Fresco" is full of the luxurious feeling of early summer, and this is, of course, the main thing; a good reader cares for little else; I care for little else myself. But when you take your coin to the assay office, it must be weighed and tested, and in the comments referred to I (unwisely, perhaps) sought to smelt this gold of the poets in the naturalist's pot, to see what alloy of error I could detect in it. Were the poems true to their last word? They were not, and much subsequent investigation has only confirmed my first analysis. The general truth is on my side, and the specific fact, if such exists in this case, on the side of the poets. It is possible that there may be a fragrant yellow violet, as an exceptional occurrence, like that of the sweet-scented. arrow-leaved species above referred to, and that in some locality it may have bloomed before the hepatica; also that Lowell may have seen a belated dandelion or two in June, amid the clover and the buttercups; but, if so, they were the exception, and not the rule, - the specific or accidental fact, and not the general truth.

Dogmatism about nature, or about anything else, very often turns out to be an ungrateful cur that bites the hand that reared it. I speak from experience. I was once quite certain that the honeybee did not work upon the blossoms of the trailing arbutus, but while walking in the woods one April

day I came upon a spot of arbutus swarming with honey-bees. They were so eager for it that they crawled under the leaves and the moss to get at the blossoms, and refused on the instant the hive-honey which I happened to have with me, and which I offered them. I had had this flower under observation more than twenty years, and had never before seen it visited by honey-bees. The same season I saw them for the first time working upon the flower of bloodroot and of adder's-tongue. Hence I would not undertake to say again what flowers bees do not work upon. Virgil implies that they work upon the violet, and for aught I know they may. I have seen them very busy on the blossoms of the white oak, though this is not considered a honey or pollen yielding tree. From the smooth sumac they reap a harvest in midsummer, and in March they get a good grist of pollen from the skunk-cabbage.

I presume, however, it would be safe to say that there is a species of smilax with an unsavory name that the bee does not visit, *Smilax herbacea*. The production of this plant is a curious freak of nature. I find it growing along the fences where one would look for wild roses or the sweetbrier; its recurving or climbing stem, its glossy, deep-green, heart-shaped leaves, its clustering umbels of small greenish yellow flowers, making it very pleasing to the eye; but to examine it closely one must positively

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hold his nose. It would be too cruel a joke to offer it to any person not acquainted with it to smell. It is like the vent of a charnel-house. It is first cousin to the trilliums, among the prettiest of our native wild flowers, and the same bad blood crops out in the purple trillium or birthroot.

Nature will include the disagreeable and repulsive also. I have seen the phallic fungus growing in June under a rosebush. There was the rose, and beneath it, springing from the same mould, was this diabolical offering to Priapus. With the perfume of the roses into the open window came the stench of this hideous parody, as if in mockery. I removed it, and another appeared in the same place shortly afterward. The earthman was rampant and insulting. Pan is not dead yet. At least he still makes a ghastly sign here and there in nature.

The good observer of nature exists in fragments, a trait here and a trait there. Each person sees what it concerns him to see. The fox-hunter knows pretty well the ways and habits of the fox, but on any other subject he is apt to mislead you. He comes to see only fox traits in whatever he looks upon. The bee-hunter will follow the bee, but lose the bird The farmer notes what affects his crops and his earnings, and little else. Common people, St. Pierre says, observe without reasoning, and the learned reason without observing. If one could apply to the observation of nature the sense

and skill of the South American rastreador, or trailer, how much he would track home! This man's eye, according to the accounts of travelers, is keener than a hound's scent. A fugitive can no more elude him than he can elude fate. His perceptions are said to be so keen that the displacement of a leaf or pebble, or the bending down of a spear of grass, or the removal of a little dust from the fence, is enough to give him the clew. He sees the half-obliterated footprints of a thief in the sand, and carries the impression in his eve till a year afterward, when he again detects the same footprint in the suburbs of a city, and the culprit is tracked home and caught. I knew a man blind from his youth who not only went about his own neighborhood without a guide, turning up to his neighbor's gate or door as unerringly as if he had the best of eyes, but who would go many miles on an errand to a new part of the country. He seemed to carry a map of the township in the bottom of his feet, a most minute and accurate survey. He never took the wrong road, and he knew the right house when he had reached it. He was a miller and fuller, and ran his mill at night while his sons ran it by day. He never made a mistake with his customers' bags or wool, knowing each man's by the sense of touch. He frightened a colored man whom he detected stealing, as if he had seen out of the back of his head. Such facts show one how deli-

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cate and sensitive a man's relation to outward nature through his bodily senses may become. Heighten it a little more, and he could forecast the weather and the seasons, and detect hidden springs and minerals. A good observer has something of this delicacy and quickness of perception. All the great poets and naturalists have it. Agassiz traces the glaciers like a rastreador; and Darwin misses no step that the slow but tireless gods of physical change have taken, no matter how they cross or retrace their course. In the obscure fish-worm he sees an agent that has kneaded and leavened the soil like giant hands.

One secret of success in observing nature is capacity to take a hint; a hair may show where a lion is hid. One must put this and that together, and value bits and shreds. Much allov exists with the truth. The gold of nature does not look like gold at the first glance. It must be smelted and refined in the mind of the observer. And one must crush mountains of quartz and wash hills of sand to get it. To know the indications is the main matter. People who do not know the secret are eager to take a walk with the observer to find where the mine is that contains such nuggets, little knowing that his ore-bed is but a gravel-heap to them. How insignificant appear most of the facts which one sees in his walks, in the life of the birds, the flowers, the animals, or in the phases of

the landscape, or the look of the sky! - insignif cant until they are put through some mental o emotional process and their true value appears. The diamond looks like a pebble until it is cut. One goes to Nature only for hints and half truths, Her facts are crude until you have absorbed them or translated them. Then the ideal steals in and lends a charm in spite of one. It is not so much what we see as what the thing seen suggests. We all see about the same; to one it means much, to another little. A fact that has passed through the mind of man, like lime or iron that has passed through his blood, has some quality or property superadded or brought out that it did not possess before. You may go to the fields and the woods, and gather fruit that is ripe for the palate without any aid of yours, but you cannot do this in science or in art. Here truth must be disentangled and interpreted, - must be made in the image of man. Hence all good observation is more or less a refining and transmuting process, and the secret is to know the crude material when you see it. I think of Wordsworth's lines: -

"The mighty world

Of eye and ear, both what they half create, and what perceive;"

which is as true in the case of the naturalist as of the poet; both "half create" the world they describe.

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Darwin does something to his facts as well as Tennyson to his. Before a fact can become poetry, it must pass through the heart or the imagination of the poet; before it can become science, it must pass through the understanding of the scientist. Or one may say, it is with the thoughts and half thoughts that the walker gathers in the woods and fields, as with the common weeds and coarser wild flowers which he plucks for a bouquet, - wild carrot, purple aster, moth mullein, sedge, grass, etc.: they look common and uninteresting enough there in the fields, but the moment he separates them from the tangled mass, and brings them indoors, and places them in a vase, say of some choice glass, amid artificial things, - behold, how beautiful! They have an added charm and significance at once; they are defined and identified, and what was common and familiar becomes unexpectedly attractive. The writer's style, the quality of mind he brings, is the vase in which his commonplace impressions and incidents are made to appear so beautiful and significant.

Man can have but one interest in nature, namely, to see himself reflected or interpreted there, and we quickly neglect both poet and philosopher who fail to satisfy, in some measure, this feeling.

II

A SPRAY OF PINE

TOW different the expression of the pine, in I fact of all the coniferæ, from that of the deciduous trees! Not different merely by reason of color and foliage, but by reason of form. The deciduous trees have greater diversity of shapes; they tend to branch endlessly; they divide and subdivide until the original trunk is lost in a maze of limbs. Not so the pine and its congeners. Here the main thing is the central shaft; there is one dominant shoot which leads all the rest, and which points the tree upward; the original type is never departed from: the branches shoot out at nearly right angles to the trunk, and occur in regular whorls; the main stem is never divided unless some accident nips the leading shoot, when two secondary branches will often rise up and lead the tree forward. The pine has no power to develop new buds, new shoots, like the deciduous trees; no power of spontaneous variation to meet new exigencies, new requirements. It is, as it were, cast in a mould. Its buds, its branches, occur in regular series and after a regular pattern. Interrupt this series, try to vary this pat-

tern, and the tree is powerless to adapt itself to any other. Victor Hugo, in his old age, compared himself to a tree that had been many times cut down, but which always sprouted again. But the pines do not sprout again. The spontaneous development of a new bud or a new shoot rarely or never occurs. The hemlock seems to be under the same law. I have cut away all the branches, and rubbed away all the buds, of a young sapling of this species, and found the tree, a year and a half later, full of life, but with no leaf or bud upon it. It could not break the spell. One bud would have released it and set its currents going again, but it was powerless to develop it. Remove the bud, or the new growth from the end of the central shaft of the branch of a pine, and in a year or two the branch will die back to the next joint; remove the whorl of branches here, and it will die back to the next whorl, and so on.

When you cut the top of a pine or a spruce, removing the central and leading shaft, the tree does not develop and send forth a new one to take the place of the old, but a branch from the next in rank, that is, from the next whorl of limbs, is promoted to take the lead. It is curious to witness this limb rise up and get into position. One season I cut off the tops of some young hemlocks that were about ten feet high, that I had balled in the winter and had moved into position for a hedge.

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The next series of branches consisted of three that shot out nearly horizontally. As time passed, one of these branches, apparently the most vigorous, began to lift itself up very slowly toward the place occupied by the lost leader. The third year it stood at an angle of about forty-five degrees; the fourth vear it had gained about half the remaining distance, when the clipping shears again cut it down. In five years it would probably have assumed an upright position. A white pine of about the same height lost its central shaft by a grub that developed from the egg of an insect, and I cut it away. It rose from a whorl of four branches, and it now devolved upon one of these to take the lead. Two of them, on opposite sides, were more vigorous than the other two, and the struggle now is as to which of these two shall gain the mastery. Both are rising up and turning toward the vacant chieftainship, and, unless something interferes, the tree will probably become forked and led upward by two equal branches. I shall probably humble the pride of one of the rivals by nipping its central shoot. One of my neighbors has cut off a yellow pine about six inches in diameter, so as to leave only one circle of limbs seven or eight feet from the ground. It is now the third year of the tree's decapitation, and one of this circle of horizontal limbs has risen up several feet, like a sleeper rising from his couch, and seems to be looking around inquiringly, as much as to say:

"Come, brothers, wake up! Some one must take the lead here; shall it be I?"

In one of my Norway spruces I have witnessed the humbling or reducing to the ranks of a would-be leading central shoot. For a couple of years the vigorous young tree was led upward by two rival branches; they appeared almost evenly matched; but on the third year one of them clearly took the lead, and at the end of the season was a foot or more in advance of the other. The next year the distance between them became still greater, and the defeated leader appeared to give up the contest, so that a season or two afterward it began to lose its upright attitude and to fall more and more toward a horizontal position; it was willing to go back into the ranks of the lateral branches. Its humiliation was so great that it even for a time dropped below them; but toward midsummer it lifted up its head a little, and was soon fairly in the position of a side branch, simulating defeat and willing subordination as completely as if it had been a conscious, sentient being.

The evergreens can keep a secret the year round, some one has said. How well they keep the secret of the shedding of their leaves! so well that in the case of the spruces we hardly know when it does occur. In fact, the spruces do not properly shed their leaves at all, but simply outgrow them, after carrying them an indefinite time. Some of the spe-

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eies carry their leaves five or six years. The hemlock drops its leaves very irregularly: the winds and the storms whip them off; in winter the snow beneath them is often covered with them.

But the pine sheds its leaves periodically, though always as it were stealthily and under cover of the newer foliage. The white pine usually sheds its leaves in midsummer, though I have known all the pines to delay till October. It is on with the new love before it is off with the old. From May till near autumn it carries two crops of leaves, last year's and the present year's. Emerson's inquiry,

"How the sacred pine-tree adds
To her old leaves new myriads,"

is framed in strict accordance with the facts. It is to her old leaves that she adds the new. Only the new growth, the outermost leaves, is carried over till the next season, thus keeping the tree always clothed and green. As its moulting season approaches, these old leaves, all the rear ranks on the limbs, begin to turn yellow, and a careless observer might think the tree was struck with death, but it is not. The decay stops just where the growth of the previous spring began, and presently the tree stands green and vigorous, with a newly laid carpet of fallen leaves beneath it.

I wonder why it is that the pine has an ancient look, a suggestion in some way of antiquity? Is

it because we know it to be the oldest tree? or is it not rather that its repose, its silence, its unchangeableness, suggest the past, and cause it to stand out in sharp contrast upon the background of the flitting, fugitive present? It has such a look of permanence! When growing from the rocks, it seems expressive of the same geologic antiquity as they. It has the simplicity of primitive things; the deciduous trees seem more complex, more heterogeneous; they have greater versatility, more resources. The pine has but one idea, and that is to mount heavenward by regular steps, — tree of fate, tree of dark shadows and of mystery.

The pine is the tree of silence. Who was the Goddess of Silence? Look for her altars amid the pines, — silence above, silence below. Pass from deciduous woods into pine woods of a windy day, and you think the day has suddenly become calm. Then how silent to the foot! One walks over a carpet of pine needles almost as noiselessly as over the carpets of our dwellings. Do these halls lead to the chambers of the great, that all noise should be banished from them? Let the designers come here and get the true pattern for a carpet, — a soft yellowish brown with only a red leaf, or a bit of gray moss, or a dusky lichen scattered here and there; a background that does not weary or bewilder the eye, or insult the ground-loving foot.

How friendly the pine-tree is to man, - so

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docile and available as timber, and so warm and protective as shelter! Its balsam is salve to his wounds, its fragrance is long life to his nostrils; an abiding, perennial tree, tempering the climate, cool as murmuring waters in summer and like a wrapping of fur in winter.

The deciduous trees are inconstant friends that fail us when adverse winds do blow; but the pine and all its tribe look winter cheerily in the face, tossing the snow, masquerading in his arctic livery, in fact holding high carnival from fall to spring. The Norseman of the woods, lofty and aspiring, tree without bluster or noise, that sifts the howling storm into a fine spray of sound; symmetrical tree, tapering, columnar, shaped as in a lathe, the preordained mast of ships, the mother of colossal timbers; centralized, towering, patriarchal, coming down from the foreworld, counting centuries in thy rings and outlasting empires in thy decay.

A little tall talk seems not amiss on such a subject. The American or white pine has been known to grow to a height of two hundred and sixty feet, slender and tapering as a rush, and equally available for friction matches or for the mast of a ship of the line. It is potent upon the sea and upon the land, and lends itself to become a standard for giants or a toy for babes, with equal readiness. No other tree so widely useful in the mechanic arts, or

so beneficent in the economy of nature. House of refuge for the winter birds, and inn and hostelry for the spring and fall emigrants. All the northern creatures are more or less dependent upon the pine. Nature has made a singular exception in the conformation of the beaks of certain birds, that they may the better feed upon the seeds of its cones, as in the crossbills. Then the pine grosbeak and pine linnet are both nurslings of this tree. Certain of the warblers, also, the naturalist seldom finds except amid its branches.

The dominant races come from the region of the pine.

"Who liveth by the ragged pine Foundeth a heroic line;"

says Emerson.

"Who liveth in the palace hall Waneth fast and spendeth all."

The pines of Norway and Sweden sent out the vikings, and out of the pine woods of northern Europe came the virile barbarian overrunning the effete southern countries.

"And grant to dwellers with the pine Dominion o'er the palm and vine."

There is something sweet and piny about the northern literatures as contrasted with those of the voluble and passionate south, — something in them that

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heals the mind's hurts like a finer balsam. In reading Björnson, or Andersen, or Russian Turgéneff, though one may not be in contact with the master spirits of the world, he is yet inhaling an atmosphere that is resinous and curative; he is under an influence that is arboreal, temperate, balsamic.

"The white pine," says Wilson Flagg in his "Woods and By-Ways of New England," "has no legendary history. Being an American tree, it is celebrated neither in poetry nor romance." Not perhaps in Old World poetry and romance, but certainly in that of the New World. The New England poets have not overlooked the pine, however much they may have gone abroad for their themes and tropes. Whittier's "My Playmate" is written to the low monotone of the pine.

"The pines were dark on Ramoth hill,
Their song was soft and low;
The blossoms in the sweet May wind
Were falling like the snow."

Lowell's "To a Pine-Tree" is well known, -

"Far up on Katahdin thou towerest
Purple-blue with the distance and vast;
Like a cloud o'er the lowlands thou lowerest,
That hangs poised on a lull in the blast
To its fall leaning awful."

In his "A Mood," his attention is absorbed by

this tree, and in the poet's quest of the muse he says, -

"I haunt the pine-dark solitudes, With soft brown silence carpeted."

But the real white pine among our poets is Emerson. Against that rustling deciduous background of the New England poets he shows dark and aspiring. Emerson seems to have a closer fellowship with the pine than with any other tree, and it recurs again and again in his poems. In his "Garden" the pine is the principal vegetable. -"the snow-loving pines," as he so aptly says, and "the hemlocks tall, untamable." It is perhaps from the pine that he gets the idea that "Nature loves the number five;" its leaves are in fives and its whorl of branches is composed of five. His warbler is the "pine warbler," and he sees "the pigeons in the pines," where they are seldom to be seen. He even puts a "pine state-house" in his "Boston Hymn."

But, more than that, his "Woodnotes," one of his longest poems, is mainly the notes of the pine. Theodore Parker said that a tree that talked like Emerson's pine ought to be cut down; but if the pine were to find a tongue, I should sooner expect to hear the Emersonian dialect from it than almost any other. It would be pretty high up, certainly, and go over the heads of most of the other trees. It were sure to be pointed, though the point few

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could see. And it would not be garrulous and loudmouthed, though it might talk on and on. Whether it would preach or not is a question, but I have no doubt it would be a fragrant healing gospel if it did. I think its sentences would be short ones with long pauses between them, and that they would sprout out of the subject independently and not connect or interlock very much. There would be breaks and chasms or maybe some darkness between the lines, but I should expect from it a lofty, cheerful, and all-the-year-round philosophy. The temptation to be oracular would no doubt be great, and could be more readily overlooked in this tree than in any other. Then, the pine being the oldest tree, great wisdom and penetration might be expected of it.

Though Emerson's pine boasts

"My garden is the cloven rock,
And my manure the snow;
And drifting sand-heaps feed my stock,
In summer's scorehing glow,"—

yet the great white pine loves a strong deep soil. How it throve along our river bottom and pointed out the best land to the early settlers! Remnants of its stumps are still occasionally seen in land that has been given to the plow these seventy or eighty years. In Pennsylvania the stumps are wrenched from the ground by machinery and used largely for

fencing. Laid upon their side, with their wide branching roots in the air, they form a barrier before which even the hound-pursued deer may well pause.

This aboriginal tree is fast disappearing from the country. Its second growth seems to be a degenerate race, what the carpenters contemptuously call pumpkin pine, on account of its softness. All the large tracts and provinces of the original tree have been invaded and ravished by the lumbermen, so that only isolated bands, and straggling specimens, like the remnants of a defeated and disorganized army, are now found scattered up and down the country. The spring floods on our northern rivers have for decades of years been moving seething walls of pine logs, sweeping down out of the wilderness. I remember pausing beside a mammoth pine in the Adirondack woods, standing a little to one side of the destroyer's track, that must have carried its green crown near one hundred and fifty feet above the earth. How such a tree impresses one! How it swells at the base and grows rigid as if with muscular effort in its determined gripe of the earth! How it lays hold of the rocks, or rends them asunder to secure its hold! Nearly all trunk, it seems to have shed its limbs like youthful follies as it went skyward, or as the builders pull down their scaffoldings and carry them higher as the temple mounts; nothing superfluous, no waste of time or

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energy, the one purpose to cleave the empyrean steadily held to.

At the Centennial fair I saw a section of a pine from Canada that was eight feet in diameter, and that had been growing, I have forgotten how many centuries. But this was only a sapling beside the redwoods of California, one of which would carry several such trees in his belt.

In the absence of the pine, the hemlock is a graceful and noble tree. In primitive woods it shoots up in the same manner, drawing the ladder up after it, and attains an altitude of nearly or quite a hundred feet. It is the poor man's pine, and destined to humbler uses than its lordlier brother. It follows the pine like a servitor, keeping on higher and more rocky ground, and going up the minor branch valleys when the pine follows only the main or mother stream. As an ornamental tree it is very pleasing, and deserves to be cultivated more than it is. It is a great favorite with the sylvan folk, too. The ruffed grouse prefer it to the pine; it is better shelter in winter, and its buds are edible. The red squirrel has found out the seeds in its cones, and they are an important part of his winter stores. Some of the rarer warblers, too, like the Blackburnian and the blue vellow-back, I never find except among the hemlocks. The older ornithologists, Audubon and Wilson, named a "hemlock warbler" also, but this bird turns out to be none other than

the young of the Blackburnian described as a new species and named for its favorite tree.

All trees in primitive woods are less social, less disposed to intermingle, than trees in groves or fields: they are more heady; they meet only on high grounds; they shake hands over the heads of their neighbors; the struggle for life is sharper and more merciless,—in these and other respects suggesting men in cities. One tree falls against a more stanch one, and bruises only itself; a weaker one it carries to the ground with it.

Both the pine and the hemlock make friends with the birch, the maple, and the oak, and one of the most pleasing and striking features of our autumnal scenery is a mountain-side sown broadcast with these intermingled trees, forming a combination of colors like the richest tapestry, the dark green giving body and permanence, the orange and yellow giving light and brilliancy.

III

HARD FARE

CUCH a winter as was that of 1880-81 -- deep snows and zero weather for nearly three months -proves especially trying to the wild creatures that attempt to face it. The supply of fat (or fuel) with which their bodies become stored in the fall is rapidly exhausted by the severe and uninterrupted cold, and the sources from which fresh supplies are usually obtained are all but wiped out. Even the fox was very hard pressed and reduced to the unusual straits of eating frozen apples; the pressure of hunger must be great, indeed, to compel Reynard to take up with such a diet. A dog will eat corn, but he cannot digest it, and I doubt if the fox extracted anything more than the cider from the frozen and thawed apples. They perhaps served to amuse and occupy his stomach for the time. Humboldt says wolves eat earth, especially clay, during winter, and Pliny makes a similar observation. In Greenland the dog eats seaweed when other food fails. In tropical countries, during the tropical winter, many savage tribes eat clay. It distends their stomachs, and in a measure satisfies the crav-

ings of hunger. During the season referred to, the crows appeared to have little else than frozen apples for many weeks; they hung about the orchards as a last resort, and, after scouring the desolate landscape over, would return to their cider with resignation, but not with cheerful alacrity. They grew very bold at times, and ventured quite under my porch, and filched the bones that Lark, the dog, had left. I put out some corn on the wall near by, and discovered that crows will not eat corn in the winter, except as they can break up the kernels. It is too hard for their gizzards to grind. Then the crow, not being properly a granivorous bird, but a carnivorous, has not the digestive, or rather the pulverizing power of the domestic fowls. The difficulty also during such a season of coming at the soil and obtaining gravel-stones, which, in such cases, are really the millstones, may also have something to do with it. Corn that has been planted and has sprouted, crows will swallow readily enough, because it is then soft, and is easily ground. My impression has always been that in spring and summer they will also pick up any chance kernels the planters may have dropped. But, as I observed them the past winter, they always held the kernel under one foot upon the wall, and picked it to pieces before devouring it. This is the manner of the jays also. The jays, perhaps, had a tougher time during the winter than the crows,

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because they do not eat fish or flesh, but depend mainly upon nuts. A troop of them came eagerly to my ash-heap one morning, which had just been uncovered by the thaw, but they found little except cinders for their gizzards, which, maybe, was what they wanted. They had foraged nearly all winter upon my neighbor's corn-crib, and probably their millstones were dull and needed replacing. They reached the corn through the opening between the slats, and were the envy of the crows, who watched them from the near trees, but dared not venture up. The chickadee, which is an insectivorous bird, will eat corn in winter. It will carry a kernel to the limb of a tree, where, held beneath its tiny foot, it will peck out the eye or chit of the corn, the germinal part only. I have also seen the woodpecker in winter eat the berries of the poison ivy. Quails will eat the fruit of the poison sumac, and grouse are killed with their crops distended with the leaves of the laurel. Grouse also eat the berries of the bitter-sweet.

The general belief among country people that the jay hoards up nuts for winter use has probably some foundation in fact, though one is at a loss to know where he could place his stores so that they would not be pilfered by the mice and the squirrels. An old hunter told me he had seen jays secreting beechnuts in a knothole in a tree. Probably a red squirrel saw them, too, and laughed behind his

tail. One day, in October, two friends of mine, out hunting, saw a blue jay carrying off chestnuts to a spruce swamp. He came and went with great secrecy and dispatch. He had several hundred yards to fly each way, but occupied only a few minutes each trip. The hunters lay in wait to shoot him, but so quickly would he seize his chestnut and be off, that he made more than a dozen trips before they killed him.

A lady writing to me from Iowa says: "I must tell you what I saw a blue jay do last winter. Flying down to the ground in front of the house, he put something in the dead grass, drawing the grass over it, first on one side, then on the other, tramped it down just exactly as a squirrel would, then walked around the spot, examining it to see if it was satisfactory. After he had flown away, I went out to see what he had hidden; it was a nicely shucked peanut that he had laid up for a time of scarcity." Since then I have myself made similar observations. I have several times seen jays carry off chestnuts and hide them here and there upon the ground. They put only one in a place, and covered it up with grass or leaves. Instead, therefore, of hoarding up nuts for future use, when the jay carries them off, he is really planting them. When the snows come these nuts are lost to him, even if he remembered the hundreds of places where he had dropped them. May not this fact account

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in a measure for the oak and chestnut trees that spring up where a pine forest has been cleared from the ground? Probably the crows secrete nuts in the same way. The acorns at least germinate and remain small, insignificant shoots until the pine is cut away and they have a chance. In almost any pine wood these baby oaks may be seen scattered here and there. Jays will carry off and secrete corn in the same way. One winter I put out ears of corn near my study window to attract these birds. They were not long in finding them out, nor long in stripping the cob of its kernels. They finally came to the window-sill and picked up the loose kernels I scattered there. At no time did they eat any on the spot, but were solely intent on carrying it away. They would take eight or ten grains at a time, apparently holding it in the throat and bill. They carried it away and deposited it in all manner of places; sometimes on the ground, sometimes in decayed trees. Once I saw a jay deposit his load in an old worm's nest in a near-by apple-tree. Whether these stores were visited afterward by the birds, I cannot say. Red-headed woodpeckers have been seen to fill crevices in posts and rails with acorns, where they were found and eaten by gray squirrels. Oregon and Mexican woodpeckers drill holes in decayed trees, and store them with acorns, putting but one acorn in a hole, but hundreds of holes in a tree or branch.

A bevy of quail in my vicinity got through the winter by feeding upon the little black beans contained in the pods of the common locust. For many weeks their diet must have been almost entirely leguminous. The surface snow in the locust-grove which they frequented was crossed in every direction with their fine tracks, like a chain-stitch upon muslins, showing where they went from pod to pod and extracted the contents. Where quite a large branch, filled with pods, lay upon the snow, it looked as if the whole flock had dined or breakfasted off it. The wind seemed to shake down the pods about as fast as they were needed. When a fresh fall of snow had blotted out everything, it was not many hours before the wind had placed upon the cloth another course; but it was always the same old course—beans, beans. What would the birds and the fowls do during such winters, if the trees and the shrubs and the plants all dropped their fruit and their seeds in the fall, as they do their leaves? They would nearly all perish. The apples that cling to the trees, the pods that hang to the lowest branches, and the seeds that the various weeds and grasses hold above the deepest snows, alone make it possible for many birds to pass the winter among us. The red squirrel, too, what would he do? He lays up no stores like the provident chipmunk, but scours about for food in all weathers, feeding upon the seeds in the cones of the hemlock that

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still cling to the tree, upon sumac-bobs, and the seeds of frozen apples. I have seen the ground under a wild apple-tree that stood near the woods completely covered with the "chonkings" of the frozen apples, the work of the squirrels in getting at the seeds; not an apple had been left, and apparently not a seed had been lost. But the squirrels in this particular locality evidently got pretty hard up before spring, for they developed a new source of food-supply. A young bushy-topped sugar-maple, about forty feet high, standing beside a stone fence near the woods, was attacked, and more than half denuded of its bark. The object of the squirrels seemed to be to get at the soft, white, mucilaginous substance (cambium layer) between the bark and the wood. The ground was covered with fragments of the bark, and the white, naked stems and branches had been scraped by fine teeth. When the sap starts in the early spring, the squirrels add this to their scantv supplies. They perforate the bark of the branches of the maples with their chisel-like teeth, and suck the sweet liquid as it slowly oozes out. It is not much as food, but evidently it helps.

I have said the red squirrel does not lay by a store of food for winter use, like the chipmunk and the wood-mice; yet in the fall he sometimes hoards in a tentative, temporary kind of way. I have seen his savings — butternuts and black walnuts — stuck

here and there in saplings and trees near his nest; sometimes carefully inserted in the upright fork of a limb or twig. One day, late in November, I counted a dozen or more black walnuts put away in this manner in a little grove of locusts, chestnuts, and maples by the roadside, and could but smile at the wise forethought of the rascally squirrel. His supplies were probably safer that way than if more elaborately hidden. They were well distributed; his eggs were not all in one basket, and he could go away from home without any fear that his storehouse would be broken into in his absence. The next week, when I passed that way, the nuts were all gone but two. I saw the squirrel that doubtless laid claim to them, on each occasion.

There is one thing the red squirrel knows unerringly that I do not (there are probably several other things); that is, on which side of the butternut the meat lies. He always gnaws through the shell so as to strike the kernel broadside, and thus easily extract it; while to my eyes there is no external mark or indication, in the form or appearance of the nut, as there is in the hickory nut, by which I can tell whether the edge or the side of the meat is toward me. But examine any number of nuts that the squirrels have rifled, and, as a rule, you will find they always drill through the shell at the one spot where the meat will be most exposed. It stands them in hand to know, and they do know.

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Doubtless, if butternuts were a main source of my food, and I were compelled to gnaw into them, I, too, should learn on which side my bread was buttered.

A hard winter affects the chipmunks very little; they are snug and warm in their burrows in the ground and under the rocks, with a bountiful store of nuts or grain. I have heard of nearly a halfbushel of chestnuts being taken from a single den. They usually hole in November, and do not come out again till March or April, unless the winter is very open and mild. Gray squirrels, when they have been partly domesticated in parks and groves near dwellings, are said to hide their nuts here and there upon the ground, and in winter to dig them up from beneath the snow, always hitting the spot accurately. A pair of flying squirrels which I observed one season in an unoccupied country-house had a pile of large, fine chestnuts near their nest till spring, when the nuts disappeared. They probably kept them till the period of greatest scarcity, and until their young made demands upon them.

The woodpeckers and chickadees doubtless find food as plentiful during severe winters as during more open ones, because they confine their search almost entirely to the trunks and branches of trees, where the latter pick up the eggs of insects and various microscopic titbits, and where the former find their accustomed fare of eggs and larvæ also.

An enamel of ice upon the trees alone puts an embargo upon their supplies. At such seasons the ruffed grouse "buds" or goes hungry; while the snowbirds, snow buntings, Canada sparrows, goldfinches, shore larks, and redpolls are dependent upon the weeds and grasses that rise above the snow, and upon the litter of the havstack and barnyard. Neither do the deep snows and the severe cold materially affect the supplies of the rabbit. The deeper the snow, the nearer he is brought to the tops of the tender bushes and shoots. I see in my walks where he has cropped the tops of the small, bushy, soft maples, cutting them slantingly as you would do with a knife, and quite as smoothly. Indeed, the mark was so like that of a knife that, notwithstanding the tracks, it was only after the closest scrutiny that I was convinced it was the sharp, chisel-like teeth of the rabbit. He leaves no chips, and apparently makes clean work of every twig he cuts off.

The wild or native mice usually lay up stores in the fall, in the shape of various nuts, grain, and seeds, yet the provident instinct, as in the red squirrel and in the jay, seems only partly developed in them; instead of carrying these supplies home, they hide them in the nearest convenient place. I have known them to carry a pint or more of hickory nuts and deposit them in a pair of boots standing in the chamber of an outhouse. Near the

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chestnut-trees they will fill little pocket-like depressions in the ground with chestnuts; in a grain-field they carry the grain under stones; under some cover beneath cherry-trees they collect great numbers of cherry-pits. Hence, when cold weather comes, instead of staying at home like the chipmunk, they gad about hither and thither looking up their supplies. One may see their tracks on the snow everywhere in the woods and fields and by the roadside. The advantage of this way of living is that it leads to activity, and probably to sociability.

These wild mice are fond of bees and of honey, and they apparently like nothing better than to be allowed to take up their quarters in winter in some vacant space in a hive of bees. A chamber just over the bees seems to be preferred, as here they get the benefit of the warmth generated by the insects. One very cold winter I wrapped up one of my hives with my shawl. Before long I noticed that the shawl was beginning to have a very torn and tattered appearance. On examination, I found that a native mouse had established itself in the top of the hive, and had levied a ruinous tax upon the shawl to make itself a nest. Never was a fabric more completely reduced to its original elements than were large sections of that shawl. It was a masterly piece of analysis. The work of the wheel and the loom was exactly reversed, and what

was once shawl was now the finest and softest of wool. The white-footed mouse is much more common along the fences and in the woods than one would suspect. One winter day I set a mouse-trap - the kind known as the delusion trap - beneath some ledges in the edge of the woods, to determine what species of mouse was most active at this season. The snow fell so deeply that I did not visit my trap for two or three weeks. When I did so, it was literally packed full of white-footed mice. There were seven in all, and not room for another, Our woods are full of these little creatures, and they appear to have a happy, social time of it, even in the severest winters. Their little tunnels under the snow and their hurried strides upon its surface may be noted everywhere. They link tree and stump, or rock and tree, by their pretty trails. They evidently travel for adventure and to hear the news, as well as for food. They know that foxes and owls are about, and they keep pretty close to cover. When they cross an exposed place, they do it hurriedly.

Such a winter as I have referred to probably destroys a great many of our half-migratory birds. The mortality appears to be the greatest in the Border States, where so many species, such as sparrows, robins, bluebirds, meadowlarks, kinglets, usually pass the cold season. A great many birds are said to have died in New Jersey and Pennsyl-

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vania, including game-birds. A man in Chester County saw a fox digging in the snow; on examining the spot, he found half a dozen quails frozen to death. Game-birds and nearly all other birds will stand the severest weather if food is plenty; but to hunger and cold both, the hardiest species may succumb.

Meadowlarks often pass the winter as far north as Pennsylvania. A man residing in that State relates how, in the height of the severest cold, three half-famished larks came to his door in quest of food. He removed the snow from a small space, and spread the poor birds a lunch of various grains and seeds. They ate heartily, and returned again the next day, and the next, each time bringing one or more drooping and half-starved companions with them, till there was quite a flock of them. Their deportment changed, their forms became erect and their plumage glossy, and the feeble mendicants became strong and vivacious birds again. These larks fell in good hands, but I am persuaded that this species suffered more than any other of our birds during that winter. In the spring they were unusually late in making their appearance, — the first one noted by me on the 9th of April, - and they were scarce in my locality during the whole season.

Birds not of a feather flock together in winter Hard times or a common misfortune makes all the world akin. A Noah's ark with antagonistic species

living in harmony is not an improbable circumstance in a forty-day and a forty-night rain. In severe weather, when the snow lies deep on the ground, I frequently see a loose, heterogeneous troop of birds pass my door, engaged in the common search for food: snowbirds, Canada sparrows, and goldfinches on the ground, and kinglets and nuthatches in the tree above, - all drifting slowly in the same direction, — the snowbirds and sparrows closely associated, but the goldfinches rather clannish and exclusive, while the kinglets and nuthatches keep still more aloof. These birds are probably not drawn together, even thus loosely, by any social instincts, but by a common want; all are hungry, and the activity of one species attracts and draws after it another and another. "I will look that way, too," the kinglet and creeper probably said, when they saw the other birds busy, and heard their merry voices.

TV

THE TRAGEDIES OF THE NESTS

THE life of the birds, especially of our migratory 1 song-birds, is a series of adventures and of hairbreadth escapes by flood and field. Very few of them probably die a natural death, or even live out half their appointed days. The home instinct is strong in birds, as it is in most creatures; and I am convinced that every spring a large number of those which have survived the southern campaign return to their old haunts to breed. A Connecticut farmer took me out under his porch one April day, and showed me a phœbe-bird's nest six stories high. The same bird had no doubt returned year after year; and as there was room for only one nest upon her favorite shelf, she had each season reared a new superstructure upon the old as a foundation. I have heard of a white robin — an albino — that nested several years in succession in the suburbs of a Maryland city. A sparrow with a very marked peculiarity of song I have heard several seasons in my own locality. But the birds do not all live to return to their old haunts: the bobolinks and starlings run a gauntlet of fire from the Hudson to

the Savannah, and the robins and meadowlarks and other song-birds are shot by boys and pot-hunters in great numbers, - to say nothing of their danger from hawks and owls. But of those that do return. what perils beset their nests, even in the most favored localities! The cabins of the early settlers, when the country was swarming with hostile Indians, were not surrounded by such dangers. The tender households of the birds are not only exposed to hostile Indians in the shape of cats and collectors, but to numerous murderous and bloodthirsty animals, against whom they have no defense but concealment. They lead the darkest kind of pioneer life, even in our gardens and orchards, and under the walls of our houses. Not a day or a night passes, from the time the eggs are laid till the young are flown, when the chances are not greatly in favor of the nest being rifled and its contents devoured, - by owls, skunks, minks, and coons at night, and by crows, jays, squirrels, weasels, snakes, and rats during the day. Infancy, we say, is hedged about by many perils; but the infancy of birds is cradled and pillowed in peril. An old Michigan settler told me that the first six children that were born to him died: malaria and teething invariably carried them off when they had reached a certain age; but other children were born, the country improved, and by and by the babies weathered the critical period, and the next six lived and grew up. The birds, too,

would no doubt persevere six times and twice six times, if the season were long enough, and finally rear their family, but the waning summer cuts them short, and but few species have the heart and strength to make even the third trial.

The first nest-builders in spring, like the first settlers near hostile tribes, suffer the most casualties. A large proportion of the nests of April and May are destroyed; their enemies have been many months without eggs, and their appetites are keen for them. It is a time, too, when other food is scarce, and the crows and squirrels are hard put. But the second nests of June, and still more the nests of July and August, are seldom molested. It is rarely that the nest of the goldfinch or the cedar-bird is harried.

My neighborhood on the Hudson is perhaps exceptionally unfavorable as a breeding haunt for birds, owing to the abundance of fish crows and of red squirrels; and the season of which this chapter is mainly a chronicle, the season of 1881, seems to have been a black-letter one even for this place, for at least nine nests out of every ten that I observed during that spring and summer failed of their proper issue. From the first nest I noted, which was that of a bluebird, — built (very imprudently, I thought at the time) in a squirrel-hole in a decayed apple-tree, about the last of April, and which came to naught, even the mother bird, I

suspect, perishing by a violent death, —to the last, which was that of a snowbird, observed in August, among the Catskills, deftly concealed in a mossy bank by the side of a road that skirted a wood, where the tall thimble blackberries grew in abundance, and from which the last young one was taken, when it was about half grown, by some nocturnal walker or daylight prowler, some untoward fate seemed hovering about them. It was a season of calamities, of violent deaths, of pillage and massacre, among our feathered neighbors. For the first time I noticed that the orioles were not safe in their strong pendent nests. Three broods were started in the apple-trees, only a few yards from the house, where, for several previous seasons, the birds had nested without molestation; but this time the young were all destroyed when about half grown. Their chirping and chattering, which was so noticeable one day, suddenly ceased the next. The nests were probably plundered at night, and doubtless by the little red screech owl, which I know is a denizen of these old orchards, living in the deeper cavities of the trees. The owl could alight upon the top of the nest, and easily thrust his murderous claw down into its long pocket and seize the young and draw them forth. The tragedy of one of the nests was heightened, or at least made more palpable, by one of the half-fledged birds, either in its attempt to escape or while in the

clutches of the enemy, being caught and entangled in one of the horse-hairs by which the nest was staved and held to the limb above. There it hung bruised and dead, gibbeted to its own cradle. This nest was the theatre of another little tragedy later in the season. Some time in August a bluebird, indulging its propensity to peep and pry into holes and crevices, alighted upon it and probably inspected the interior; but by some unlucky move it got its wings entangled in this same fatal horse-hair. Its efforts to free itself appeared only to result in its being more securely and hopelessly bound; and there it perished; and there its form, dried and embalmed by the summer heats, was yet hanging in September, the outspread wings and plumage showing nearly as bright as in life.

A correspondent writes me that one of his orioles got entangled in a cord while building her nest, and that, though by the aid of a ladder he reached and liberated her, she died soon afterward. He also found a "chippie" (called also "hair-bird") suspended from a branch by a horse-hair, beneath a partly constructed nest. I heard of a cedar-bird caught and destroyed in the same way, and of two young bluebirds, around whose legs a horse-hair had become so tightly wound that the legs withered up and dropped off. The birds became fledged, and finally left the nest with the others. Such tragedies are probably quite common.

Before the advent of civilization in this country, the oriole probably built a much deeper nest than it usually does at present. When now it builds in remote trees and along the borders of the woods, its nest, I have noticed, is long and gourd-shaped; but in orchards and near dwellings it is only a deep cup or pouch. It shortens it up in proportion as the danger lessens. Probably a succession of disastrous years, like the one under review, would cause it to lengthen it again beyond the reach of owl's talons or jay-bird's beak.

The first song sparrow's nest I observed in the spring of 1881 was in a field under a fragment of a board, the board being raised from the ground a couple of inches by two poles. It had its full complement of eggs, and probably sent forth a brood of young birds, though as to this I cannot speak positively, as I neglected to observe it further. It was well sheltered and concealed, and was not easily come at by any of its natural enemies, save snakes and weasels. But concealment often avails little. In May, a song sparrow, which had evidently met with disaster earlier in the season, built its nest in a thick mass of woodbine against the side of my house, about fifteen feet from the ground. Perhaps it took the hint from its cousin, the English sparrow. The nest was admirably placed, protected from the storms by the overhanging eaves and from all eyes by the thick screen of leaves. Only by

patiently watching the suspicious bird, as she lingered near with food in her beak, did I discover its whereabouts. That brood is safe, I thought, bevond doubt. But it was not: the nest was pillaged one night, either by an owl, or else by a rat that had climbed into the vine, seeking an entrance to the house. The mother bird, after reflecting upon her ill-luck about a week, seemed to resolve to try a different system of tactics, and to throw all appearances of concealment aside. She built a nest a few yards from the house, beside the drive, upon a smooth piece of greensward. There was not a weed or a shrub or anything whatever to conceal it or mark its site. The structure was completed, and incubation had begun, before I discovered what was going on. "Well, well," I said, looking down upon the bird almost at my feet, "this is going to the other extreme indeed; now the cats will have vou." The desperate little bird sat there day after day, looking like a brown leaf pressed down in the short green grass. As the weather grew hot, her position became very trying. It was no longer a question of keeping the eggs warm, but of keeping them from roasting. The sun had no mercy on her, and she fairly panted in the middle of the day. In such an emergency the male robin has been known to perch above the sitting female and shade her with his outstretched wings. But in this case there was no perch for the male bird, had he been

disposed to make a sunshade of himself. I thought to lend a hand in this direction myself, and so stuck a leafy twig beside the nest. This was probably an unwise interference: it guided disaster to the spot; the nest was broken up, and the mother bird was probably caught, as I never saw her afterward.

For several previous summers a pair of kingbirds had reared, unmolested, a brood of young in an apple-tree, only a few yards from the house; but during this season disaster overtook them also. The nest was completed, the eggs laid, and incubation had just begun, when, one morning about sunrise, I heard loud cries of distress and alarm proceed from the old apple-tree. Looking out of the window, I saw a crow, which I knew to be a fish crow, perched upon the edge of the nest, hastily bolting the eggs. The parent birds, usually so ready for the attack, seemed overcome with grief and alarm. They fluttered about in the most helpless and bewildered manner, and it was not till the robber fled on my approach that they recovered themselves and charged upon him. The crow scurried away with upturned, threatening head, the furious kingbirds fairly upon his back. The pair lingered around their desecrated nest for several days, almost silent, and saddened by their loss, and then disappeared. They probably made another trial elsewhere.

The fish crow fishes only when it has destroyed all the eggs and young birds it can find. It is the most despicable thief and robber among our feathered creatures. From May to August it is gorged with the fledgelings of the nest. It is fortunate that its range is so limited. In size it is smaller than the common crow, and it is a much less noble and dignified bird. Its caw is weak and feminine,—a sort of split and abortive caw, that stamps it the sneak-thief it is. This crow is common farther south, but is not found in this State, so far as I have observed, except in the valley of the Hudson.

One season a pair of them built a nest in a Norway spruce that stood amid a dense growth of other ornamental trees near a large unoccupied house. They sat down amid plenty. The wolf established himself in the fold. The many birds—robins, thrushes, finches, vireos, pewees—that seek the vicinity of dwellings (especially of these large country residences with their many trees and park-like grounds), for the greater safety of their eggs and young, were the easy and convenient victims of these robbers. They plundered right and left, and were not disturbed till their young were nearly fledged, when some boys, who had long before marked them as their prize, rifled the nest.

The song-birds nearly all build low; their cradle is not upon the treetop. It is only birds of prey that fear danger from below more than from above,

and that seek the higher branches for their nests. A line five feet from the ground would run above more than half the nests, and one ten feet would bound more than three fourths of them. It is only the oriole, the wood pewee, the tanager, the warbling vireo, and two or three warblers, that, as a rule, go higher than this. The crows and jays and other enemies of the birds have learned to explore this belt pretty thoroughly. But the leaves and the protective coloring of most nests baffle them as effectually, no doubt, as they do the professional oölogist. The nest of the red-eved vireo is one of the most artfully placed in the wood. It is just beyond the point where the eve naturally pauses in its search; namely, on the extreme end of the lowest branch of the tree, usually four or five feet from the ground. One looks up and down and through the tree, - shoots his eye-beams into it as he might discharge his gun at some game hidden there, but the drooping tip of that low horizontal branch, - who would think of pointing his piece just there? If a crow or other marauder were to alight upon the branch or upon those above it, the nest would be screened from him by the large leaf that usually forms a canopy immediately above it. The nest-hunter, standing at the foot of the tree and looking straight before him, might discover it easily, were it not for its soft, neutral gray tint which blends so thoroughly with the trunks and

branches of trees. Indeed, I think there is no nest in the woods—no arboreal nest—so well concealed. The last one I saw was pendent from the end of a low branch of a maple, that nearly grazed the clapboards of an unused hay-barn in a remote backwoods clearing. I peeped through a crack, and saw the old birds feed the nearly fledged young within a few inches of my face. And yet the cowbird finds this nest and drops her parasitical egg in it. Her tactics in this as in other cases are probably to watch the movements of the parent bird. She may often be seen searching anxiously through the trees or bushes for a suitable nest, yet she may still oftener be seen perched upon some good point of observation watching the birds as they come and go about her. There is no doubt that, in many cases, the cowbird makes room for her own illegitimate egg in the nest by removing one of the bird's own. When the cowbird finds two or more eggs in a nest in which she wishes to deposit her own, she will remove one of them. I found a sparrow's nest with two sparrow's eggs and one cowbird's egg, and another egg lying a foot or so below it on the ground. I replaced the ejected egg, and the next day found it again removed, and another cowbird's egg in its place. I put it back the second time, when it was again ejected, or destroyed, for I failed to find it anywhere. Very alert and sensitive birds, like the warblers, often bury the strange egg beneath

a second nest built on top of the old. A lady living in the suburbs of an eastern city, one morning heard cries of distress from a pair of house wrens that had a nest in a honeysuckle on her front porch. On looking out of the window, she beheld this little comedy, — comedy from her point of view, but no doubt grim tragedy from the point of view of the wrens: a cowbird with a wren's egg in its beak running rapidly along the walk, with the outraged wrens forming a procession behind it, screaming, scolding, and gesticulating as only these voluble little birds can. The cowbird had probably been surprised in the act of violating the nest, and the wrens were giving her a piece of their minds.

Every cowbird is reared at the expense of two or more song-birds. For every one of these dusky little pedestrians there amid the grazing cattle there are two or more sparrows, or vireos, or warblers, the less. It is a big price to pay,—two larks for a bunting,—two sovereigns for a shilling; but Nature does not hesitate occasionally to contradict herself in just this way. The young of the cowbird is disproportionately large and aggressive, one might say hoggish. When disturbed, it will clasp the nest and scream and snap its beak threateningly. One hatched out in a song sparrow's nest which was under my observation, and would soon have overridden and overborne the young sparrow which

came out of the shell a few hours later, had I not interfered from time to time and lent the young sparrow a helping hand. Every day I would visit the nest and take the sparrow out from under the pot-bellied interloper, and place it on top, so that presently it was able to hold its own against its enemy. Both birds became fledged and left the nest about the same time. Whether the race was an even one after that, I know not.

I noted but two warblers' nests during that season, one of the black-throated blue-back and one of the redstart, — the latter built in an apple-tree but a few yards from a little rustic summer-house where I idle away many summer days. The lively little birds, darting and flashing about, attracted my attention for a week before I discovered their nest. They probably built it by working early in the morning, before I appeared upon the scene, as I never saw them with material in their beaks. Guessing from their movements that the nest was in a large maple that stood near by, I climbed the tree and explored it thoroughly, looking especially in the forks of the branches, as the authorities say these birds build in a fork. But no nest could I find. Indeed, how can one by searching find a bird's-nest? I overshot the mark; the nest was much nearer me, almost under my very nose, and I discovered it, not by searching, but by a casual glance of the eye, while thinking of other matters.

The bird was just settling upon it as I looked up from my book and caught her in the act. The nest was built near the end of a long, knotty, horizontal branch of an apple-tree, but effectually hidden by the grouping of the leaves; it had three eggs, one of which proved to be barren. The two young birds grew apace, and were out of the nest early in the second week; but something caught one of them the first night. The other probably grew to maturity, as it disappeared from the vicinity with its parents after some days.

The blue-back's nest was scarcely a foot from the ground, in a little bush situated in a low, dense wood of hemlock and beech and maple amid the Catskills, — a deep, massive, elaborate structure, in which the sitting bird sank till her beak and tail alone were visible above the brim. It was a misty chilly day when I chanced to find the nest, and the mother bird knew instinctively that it was not prudent to leave her four half-incubated eggs uncovered and exposed for a moment. When I sat down near the nest, she grew very uneasy, and, after trying in vain to decoy me away by suddenly dropping from the branches and dragging herself over the ground as if mortally wounded, she approached and timidly and half doubtingly covered her eggs within two yards of where I sat. I disturbed her several times, to note her ways. There came to be something almost appealing in her looks

and manner, and she would keep her place on her precious eggs till my outstretched hand was within a few feet of her. Finally, I covered the cavity of the nest with a dry leaf. This she did not remove with her beak, but thrust her head deftly beneath it and shook it off upon the ground. Many of her sympathizing neighbors, attracted by her alarm note, came and had a peep at the intruder, and then flew away, but the male bird did not appear upon the scene. The final history of this nest I am unable to give, as I did not again visit it till late in the season, when, of course, it was empty.

Years pass without my finding a brown thrasher's nest; it is not a nest you are likely to stumble upon in your walk; it is hidden as a miser hides his gold, and watched as jealously. The male pours out his rich and triumphant song from the tallest tree he can find, and fairly challenges you to come and look for his treasures in his vicinity. But you will not find them if you go. The nest is somewhere on the outer circle of his song; he is never so imprudent as to take up his stand very near it. The artists who draw those cozy little pictures of a brooding mother bird, with the male perched but a yard away in full song, do not copy from nature. The thrasher's nest I found was thirty or forty rods from the point where the male was wont to indulge in his brilliant recitative. It was in an open field under a low ground-juniper. My dog disturbed

the sitting bird as I was passing near. The nest could be seen only by lifting up and parting away the branches. All the arts of concealment had been carefully studied. It was the last place you would think of looking, and, if you did look, nothing was visible but the dense green circle of the low-spreading juniper. When you approached, the bird would keep her place till you had begun to stir the branches, when she would start out, and, just skimming the ground, make a bright brown line to the near fence and bushes. I confidently expected that this nest would escape molestation, but it did not. Its discovery by myself and dog probably opened the door for ill-luck, as one day, not long afterward, when I peeped in upon it, it was empty. The proud song of the male had ceased from his accustomed tree, and the pair were seen no more in that vicinity.

The phoebe-bird is a wise architect, and perhaps enjoys as great an immunity from danger, both in its person and its nest, as any other bird. Its modest, ashen-gray suit is the color of the rocks where it builds, and the moss of which it makes such free use gives to its nest the look of a natural growth or accretion. But when it comes into the barn or under the shed to build, as it so frequently does, the moss is rather out of place. Doubtless in time the bird will take the hint, and when she builds in such places will leave the moss out. I

noted but two nests the summer I am speaking of: one in a barn failed of issue, on account of the rats, I suspect, though the little owl may have been the depredator; the other, in the woods, sent forth three young. This latter nest was most charmingly and ingeniously placed. I discovered it while in quest of pond-lilies, in a long, deep, level stretch of water in the woods. A large tree had blown over at the edge of the water, and its dense mass of upturned roots, with the black, peaty soil filling the interstices, was like the fragment of a wall several feet high, rising from the edge of the languid current. In a niche in this earthy wall, and visible and accessible only from the water, a phæbe had built her nest and reared her brood. I paddled my boat up and came alongside prepared to take the family aboard. The young, nearly ready to fly, were quite undisturbed by my presence, having probably been assured that no danger need be apprehended from that side. It was not a likely place for minks, or they would not have been so secure.

I noted but one nest of the wood pewee, and that, too, like so many other nests, failed of issue. It was saddled upon a small dry limb of a plane-tree that stood by the roadside, about forty feet from the ground. Every day for nearly a week, as I passed by, I saw the sitting bird upon the nest. Then one morning she was not in her place, and on examina-

tion the nest proved to be empty, - robbed, I had no doubt, by the red squirrels, as they were very abundant in its vicinity, and appeared to make a clean sweep of every nest. The wood pewee builds an exquisite nest, shaped and finished as if cast in a mould. It is modeled without and within with equal neatness and art, like the nest of the hummingbird and the little gray gnatcatcher. The material is much more refractory than that used by either of these birds, being, in the present case, dry, fine cedar twigs; but these were bound into a shape as rounded and compact as could be moulded out of the most plastic material. Indeed, the nest of this bird looks precisely like a large, lichen-covered, cup-shaped excrescence of the limb upon which it is placed. And the bird, while sitting, seems entirely at her ease. Most birds seem to make very hard work of incubation. It is a kind of martyrdom which appears to tax all their powers of endurance. They have such a fixed, rigid, predetermined look, pressed down into the nest and as motionless as if made of cast-iron. But the wood pewee is an exception. She is largely visible above the rim of the nest. Her attitude is easy and graceful; she moves her head this way and that, and seems to take note of whatever goes on about her; and if her neighbor were to drop in for a little social chat, she could doubtless do her part. In fact, she makes light and easy work of what, to most other birds, is such a

serious and engrossing matter. If it does not look like play with her, it at least looks like leisure and quiet contemplation.

There is no nest-builder that suffers more from crows and squirrels and other enemies than the wood thrush. It builds as openly and unsuspiciously as if it thought all the world as honest as itself. Its favorite place is the fork of a sapling, eight or ten feet from the ground where it falls an easy prey to every nest-robber that comes prowling through the woods and groves. It is not a bird that skulks and hides, like the catbird, the brown thrasher, the chat, or the chewink, and its nest is not concealed with the same art as theirs. Our thrushes are all frank, open-mannered birds; but the veery and the hermit build upon the ground, where they at least escape the crows, owls, and jays, and stand a better chance to be overlooked by the red squirrel and weasel also; while the robin seeks the protection of dwellings and outbuildings. For years I have not known the nest of a wood thrush to succeed. During the season referred to I observed but two, both apparently a second attempt, as the season was well advanced, and both failures. In one case, the nest was placed in a branch that an apple-tree, standing near a dwelling, held out over the highway. The structure was barely ten feet above the middle of the road, and would just escape a passing load of hay. It was made conspicuous by the use of a large

fragment of newspaper in its foundation. - an unsafe material to build upon in most cases. Whatever else the press may guard, this particular newspaper did not guard this nest from harm. It saw the egg and probably the chick, but not the fledgeling. A murderous deed was committed above the public highway, but whether in the open day or under cover of darkness I have no means of knowing. The frisky red squirrel was doubtless the culprit. The other nest was in a maple sapling, within a few yards of the little rustic summer-house already referred to. The first attempt of the season, I suspect, had failed in a more secluded place under the hill; so the pair had come up nearer the house for protection. The male sang in the trees near by for several days before I chanced to see the nest. The very morning, I think, it was finished I saw a red squirrel exploring a tree but a few yards away; he probably knew what the singing meant as well as I did. I did not see the inside of the nest, for it was almost instantly deserted, the female having probably laid a single egg, which the squirrel had devoured.

If I were a bird, in building my nest I should follow the example of the bobolink, placing it in the midst of a broad meadow, where there was no spear of grass, or flower, or growth unlike another to mark its site. I judge that the bobolink escapes the dangers to which I have adverted as few or no

other birds do. Unless the mowers come along at an earlier date than she has anticipated, that is, before July 1, or a skunk goes nosing through the grass, which is unusual, she is as safe as bird well can be in the great open of nature. She selects the most monotonous and uniform place she can find amid the daisies or the timothy and clover, and places her simple structure upon the ground in the midst of it. There is no concealment, except as the great conceals the little, as the desert conceals the pebble, as the myriad conceals the unit. You may find the nest once, if your course chances to lead you across it, and your eye is quick enough to note the silent brown bird as she darts swiftly away; but step three paces in the wrong direction, and your search will probably be fruitless. My friend and I found a nest by accident one day, and then lost it again one minute afterward. I moved away a few yards to be sure of the mother bird, charging my friend not to stir from his tracks. When I returned, he had moved two paces, he said (he had really moved four), and we spent a half hour stooping over the daisies and the buttercups, looking for the lost clew. We grew desperate, and fairly felt the ground over with our hands, but without avail. I marked the spot with a bush, and came the next day, and, with the bush as a centre, moved about it in slowly increasing circles, covering, I thought, nearly every inch of ground with my feet, and laying hold of it

with all the visual power I could command, till my patience was exhausted, and I gave up, baffled. I began to doubt the ability of the parent birds themselves to find it, and so secreted myself and watched. After much delay, the male bird appeared with food in his beak, and, satisfying himself that the coast was clear, dropped into the grass which I had trodden down in my search. Fastening my eye upon a particular meadow-lily, I walked straight to the spot, bent down, and gazed long and intently into the grass. Finally my eye separated the nest and its young from its surroundings. My foot had barely missed them in my search, but by how much they had escaped my eye I could not tell. Probably not by distance at all, but simply by unrecognition. They were virtually invisible. The dark gray and yellowish brown dry grass and stubble of the meadow-bottom were exactly copied in the color of the half-fledged young. More than that, they hugged the nest so closely and formed such a compact mass, that though there were five of them, they preserved the unit of expression, - no single head or form was defined; they were one, and that one was without shape or color, and not separable, except by closest scrutiny, from the one of the meadow-bottom. That nest prospered, as bobolinks' nests doubtless generally do; for, notwithstanding the enormous slaughter of the birds during their fall migrations by Southern sportsmen, the

bobolink appears to hold its own, and its music does not diminish in our Northern meadows.

Birds with whom the struggle for life is the sharpest seem to be more prolific than those whose nest and young are exposed to fewer dangers. The robin, the sparrow, the pewee, will rear, or make the attempt to rear, two and sometimes three broods in a season; but the bobolink, the oriole, the kingbird, the goldfinch, the cedar-bird, the birds of prey, and the woodpeckers, that build in safe retreats in the trunks of trees, have usually but a single brood. If the bobolink reared two broods, our meadows would swarm with them.

I noted three nests of the cedar-bird in August in a single orchard, all productive, but each with one or more unfruitful eggs in it. The cedar-bird is the most silent of our birds, having but a single fine note, so far as I have observed, but its manners are very expressive at times. No bird known to me is capable of expressing so much silent alarm while on the nest as this bird. As you ascend the tree and draw near it, it depresses its plumage and crest, stretches up its neck, and becomes the very picture of fear. Other birds, under like circumstances, hardly change their expression at all till they launch into the air, when by their voice they express anger rather than alarm.

I have referred to the red squirrel as a destroyer of the eggs and young of birds. I think the mis-

chief it does in this respect can hardly be overestimated. Nearly all birds look upon it as their enemy, and attack and annoy it when it appears near their breeding haunts. Thus, I have seen the pewee, the cuckoo, the robin, and the wood thrush pursuing it with angry voice and gestures. A friend of mine saw a pair of robins attack one in the top of a tall tree so vigorously that they caused it to lose its hold, when it fell to the ground, and was so stunned by the blow as to allow him to pick it up. If you wish the birds to breed and thrive in your orchards and groves, kill every red squirrel that infests the place; kill every weasel also. The weasel is a subtle and arch enemy of the birds. It climbs trees and explores them with great ease and nimbleness. I have seen it do so on several occasions. One day my attention was arrested by the angry notes of a pair of brown thrashers that were flitting from bush to bush along an old stone row in a remote field. Presently I saw what it was that excited them, - three large red weasels, or ermines, coming along the stone wall, and leisurely and half playfully exploring every tree that stood near it. They had probably robbed the thrashers. They would go up the trees with great ease, and glide serpentlike out upon the main branches. When they descended the tree, they were unable to come straight down, like a squirrel, but went around it spirally. How boldly they thrust their heads out of the wall.

and eved me and sniffed me as I drew near, - their round, thin ears, their prominent, glistening, beadlike eyes, and the curving, snake-like motions of the head and neck being very noticeable. They looked like blood-suckers and egg-suckers. They suggested something extremely remorseless and cruel. One could understand the alarm of the rats when they discover one of these fearless, subtle, and circumventing creatures threading their holes. To flee must be like trying to escape death itself. I was one day standing in the woods upon a flat stone, in what at certain seasons was the bed of a stream, when one of these weasels came undulating along and ran under the stone upon which I was standing. As I remained motionless, he thrust out his wedge-shaped head, and turned it back above the stone as if half in mind to seize my foot; then he drew back, and presently went his way. These weasels often hunt in packs like the British stoat. When I was a boy, my father one day armed me with an old musket and sent me to shoot chipmunks around the corn. While watching the squirrels, a troop of weasels tried to cross a barway where I sat, and were so bent on doing it that I fired at them, boy-like, simply to thwart their purpose. One of the weasels was disabled by my shot, but the troop were not discouraged. and, after making several feints to cross, one of them seized the wounded one and bore it over,

and the pack disappeared in the wall on the other side.

Let me conclude this chapter with two or three more notes about this alert enemy of the birds and the lesser animals, the weasel.

A farmer one day heard a queer growling sound in the grass; on approaching the spot he saw two weasels contending over a mouse; both had hold of the mouse, pulling in opposite directions, and they were so absorbed in the struggle that the farmer cautiously put his hands down and grabbed them both by the back of the neck. He put them in a cage, and offered them bread and other food. This they refused to eat, but in a few days one of them had eaten the other up, picking his bones clean, and leaving nothing but the skeleton.

The same farmer was one day in his cellar when two rats came out of a hole near him in great haste, and ran up the cellar wall and along its top till they came to a floor timber that stopped their progress, when they turned at bay, and looked excitedly back along the course they had come. In a moment a weasel, evidently in hot pursuit of them, came out of the hole, and, seeing the farmer, checked his course and darted back. The rats had doubtless turned to give him fight, and would probably have been a match for him.

The weasel seems to track its game by scent. A hunter of my acquaintance was one day sitting in

the woods, when he saw a red squirrel run with great speed up a tree near him, and out upon a long branch, from which he leaped to some rocks, and disappeared beneath them. In a moment a weasel came in full course upon his trail, ran up the tree, then out along the branch, from the end of which he leaped to the rocks as the squirrel did, and plunged beneath them.

Doubtless the squirrel fell a prey to him. The squirrel's best game would have been to have kept to the higher treetops, where he could easily have distanced the weasel. But beneath the rocks he stood a very poor chance. I have often wondered what keeps such an animal as the weasel in check, for weasels are quite rare. They never need go hungry, for rats and squirrels and mice and birds are everywhere. They probably do not fall a prey to any other animal, and very rarely to man. But the circumstances or agencies that check the increase of any species of animal or bird are, as Darwin says, very obscure and but little known.

V

A SNOW-STORM

THAT is a striking line with which Emerson opens his beautiful poem of the Snow-Storm:

"Announced by all the trumpets of the sky,
Arrives the snow, and, driving o'er the fields,
Seems nowhere to alight."

One seems to see the clouds puffing their cheeks as they sound the charge of their white legions. But the line is more accurately descriptive of a rainstorm, as, in both summer and winter, rain is usually preceded by wind. Homer, describing a snow-storm in his time, says:—

"The winds are lulled."

The preparations of a snow-storm are, as a rule, gentle and quiet; a marked hush pervades both the earth and the sky. The movements of the celestial forces are muffled, as if the snow already paved the way of their coming. There is no uproar, no clashing of arms, no blowing of wind trumpets. These soft, feathery, exquisite crystals are formed as if in the silence and privacy of the inner cloud-cham-

bers. Rude winds would break the spell and mar the process. The clouds are smoother, and slower in their movements, with less definite outlines than those which bring rain. In fact, everything is prophetic of the gentle and noiseless meteor that is approaching, and of the stillness that is to succeed it, when "all the batteries of sound are spiked," as Lowell says, and "we see the movements of life as a deaf man sees it, - a mere wraith of the clamorous existence that inflicts itself on our ears when the ground is bare." After the storm is fairly launched the winds not infrequently awake, and, seeing their opportunity, pipe the flakes a lively dance. I am speaking now of the typical, full-born midwinter storm that comes to us from the north or northnortheast, and that piles the landscape knee-deep with snow. Such a storm once came to us the last day of January, - the master-storm of the winter. Previous to that date, we had had but light snow. The spruces had been able to catch it all upon their arms, and keep a circle of bare ground beneath them where the birds scratched. But the day following this fall, they stood with their lower branches completely buried. If the Old Man of the North had but sent us his couriers and errand-boys before, the old graybeard appeared himself at our doors on this occasion, and we were all his subjects. His flag was upon every tree and roof, his seal upon every door and window, and his embargo upon every path

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and highway. He slipped down upon us, too, under the cover of such a bright, seraphic day, -a day that disarmed suspicion with all but the wise ones, a day without a cloud or a film, with a gentle breeze from the west, a dry, bracing air, a blazing sun that brought out the bare ground under the lee of the fences and farm-buildings, and at night a spotless moon near her full. The next morning the sky reddened in the east, then became gray, heavy, and silent. A seamless cloud covered it. The smoke from the chimneys went up with a barely perceptible slant toward the north. In the forenoon the cedar-birds, purple finches, yellowbirds, nuthatches, bluebirds, were in flocks or in couples and trios about the trees, more or less noisy and loquacious. About noon a thin white veil began to blur the distant southern mountains. It was like a white dream slowly descending upon them. The first flake or flakelet that reached me was a mere white speck that came idly circling and eddying to the ground. I could not see it after it alighted. It might have been a scale from the feather of some passing bird, or a larger mote in the air that the stillness was allowing to settle. Yet it was the altogether inaudible and infinitesimal trumpeter that announced the coming storm, the grain of sand that heralded the desert. Presently another fell, then another: the white mist was creeping up the river valley. How slowly and loiteringly it came, and how microscopic its first siftings!

This mill is bolting its flour very fine, you think. But wait a little; it gets coarser by and by; you begin to see the flakes; they increase in numbers and in size, and before one o'clock it is snowing steadily. The flakes come straight down, but in a half hour they have a marked slant toward the north; the wind is taking a hand in the game. By mid-afternoon the storm is coming in regular pulsebeats or in vertical waves. The wind is not strong, but seems steady; the pines hum, yet there is a sort of rhythmic throb in the meteor; the air toward the wind looks ribbed with steady-moving vertical waves of snow. The impulses travel along like undulations in a vast suspended white curtain, imparted by some invisible hand there in the northeast. As the day declines the storm waxes, the wind increases, the snow-fall thickens, and

> "the housemates sit Around the radiant fireplace, inclosed In a tumultuous privacy of storm,"

a privacy which you feel outside as well as in. Out of doors you seem in a vast tent of snow; the distance is shut out, near-by objects are hidden; there are white curtains above you, and white screens about you, and you feel housed and secluded in storm. Your friend leaves your door, and he is wrapped away in white obscurity, caught up in a cloud, and his footsteps are obliterated. Travelers

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meet on the road, and do not see or hear each other till they are face to face. The passing train, half a mile away, gives forth a mere wraith of sound. Its whistle is deadened as in a dense wood.

Still the storm rose. At five o'clock I went forth to face it in a two-mile walk. It was exhilarating in the extreme. The snow was lighter than chaff. It had been dried in the Arctic ovens to the last degree. The foot sped through it without hindrance. I fancied the grouse and the quail quietly sitting down in the open places, and letting it drift over them. With head under wing, and wing snugly folded, they would be softly and tenderly buried in a few moments. The mice and the squirrels were in their dens, but I fancied the fox asleep upon some rock or log, and allowing the flakes to cover him. The hare in her form, too, was being warmly sepulchred with the rest. I thought of the young cattle and the sheep huddled together on the lee side of a haystack in some remote field, all enveloped in mantles of white.

"I thought me on the ourie cattle,
Or silly sheep, wha bide this brattle
O' wintry war,
Or thro' the drift, deep-lairing sprattle,
Beneath a scaur.

"Ilk happing bird, wee helpless thing, That in the merry months o' spring

Delighted me to hear thee sing,

What comes o' thee?

Where wilt thou cow'r thy chittering wing,

And close thy ee?''

As I passed the creek, I noticed the white woolly masses that filled the water. It was as if somebody upstream had been washing his sheep and the water had carried away all the wool, and I thought of the Psalmist's phrase, "He giveth snow like wool." On the river a heavy fall of snow simulates a thin layer of cotton batting. The tide drifts it along, and, where it meets with an obstruction alongshore, it folds up and becomes wrinkled or convoluted like a fabric, or like cotton sheeting. Attempt to row a boat through it, and it seems indeed like cotton or wool, every fibre of which resists your progress.

As the sun went down and darkness fell, the storm impulse reached its full. It became a wild conflagration of wind and snow; the world was wrapt in frost flame; it enveloped one, and penetrated his lungs and caught away his breath like a blast from a burning city. How it whipped around and under every cover and searched out every crack and crevice, sifting under the shingles in the attic, darting its white tongue under the kitchen door, puffing its breath down the chimney, roaring through the woods, stalking like a sheeted ghost across the hills, bending in white and ever-changing forms above the fences, sweeping across the plains, whirl-

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ing in eddies behind the buildings, or leaping spitefully up their walls, — in short, taking the world entirely to itself, and giving a loose rein to its desire.

But in the morning, behold! the world was not consumed; it was not the besom of destruction after all, but the gentle hand of mercy. How deeply and warmly and spotlessly Earth's nakedness is clothed! — the "wool" of the Psalmist nearly two feet deep. And as far as warmth and protection are concerned, there is a good deal of the virtue of wool in such a snow-fall. How it protects the grass, the plants, the roots of the trees, and the worms, insects, and smaller animals in the ground! It is a veritable fleece, beneath which the shivering earth ("the frozen hills ached with pain," says one of our young poets) is restored to warmth. When the temperature of the air is at zero, the thermometer, placed at the surface of the ground beneath a foot and a half of snow, would probably indicate but a few degrees below freezing; the snow is rendered such a perfect non-conductor of heat mainly by reason of the quantity of air that is caught and retained between the crystals. Then how, like a fleece of wool, it rounds and fills out the landscape, and makes the leanest and most angular field look smooth!

The day dawned, and continued as innocent and fair as the day which had preceded, — two moun-

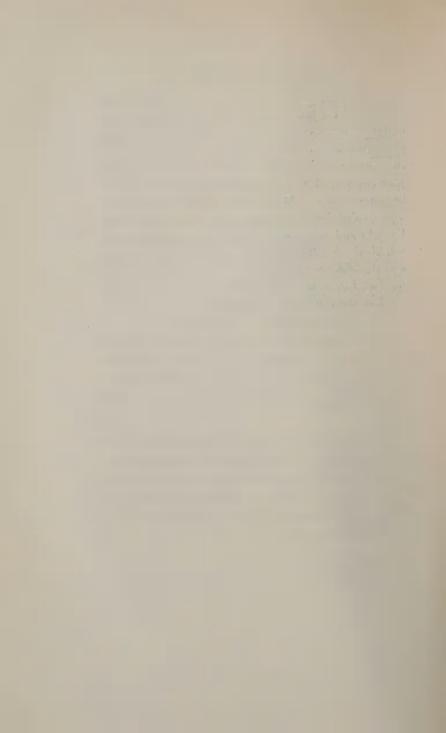
tain peaks of sky and sun, with their valley of cloud and snow between. Walk to the nearest spring run on such a morning, and you can see the Colorado valley and the great canons of the West in miniature, carved in alabaster. In the midst of the plain of snow lie these chasms; the vertical walls, the bold headlands, the turrets and spires and obelisks, the rounded and towering capes, the carved and buttressed precipices, the branch valleys and canons, and the winding and tortuous course of the main channel are all here. - all that the Yosemite or the Yellowstone have to show, except the terraces and the cascades. Sometimes my cañon is bridged, and my fancy runs nimbly across a vast arch of Parian marble, and that makes up for the falls and the terraces. Where the ground is marshy, I come upon a pretty and vivid illustration of what I have read and been told of the Florida formation. This white and brittle limestone is undermined by water. Here are the dimples and depressions, the sinks and the wells, the springs and the lakes. Some places a mouse might break through the surface and reveal the water far beneath, or the snow gives way of its own weight, and you have a minute Florida well, with the truncated cone-shape and all. The arched and subterranean pools and passages are there likewise.

But there is a more beautiful and fundamental geology than this in the snow-storm: we are ad-

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mitted into Nature's oldest laboratory, and see the working of the law by which the foundations of the material universe were laid, — the law or mystery of crystallization. The earth is built upon crystals; the granite rock is only a denser and more compact snow, or a kind of ice that was vapor once and may be vapor again. "Every stone is nothing else but a congealed lump of frozen earth," says Plutarch. By cold and pressure air can be liquefied, perhaps solidified. A little more time, a little more heat, and the hills are but April snow-banks. Nature has but two forms, the cell and the crystal, — the crystal first, the cell last. All organic nature is built up of the cell; all inorganic, of the crystal. Cell upon cell rises the vegetable, rises the animal; crystal wedded to and compacted with crystal stretches the earth beneath them. See in the falling snow the old cooling and precipitation, and the shooting, radiating forms that are the architects of planet and globe.

We love the sight of the brown and ruddy earth; it is the color of life, while a snow-covered plain is the face of death; yet snow is but the mask of the life-giving rain; it, too, is the friend of man,—the tender, sculpturesque, immaculate, warming, fertilizing snow.



VI

A TASTE OF MAINE BIRCH

THE traveler and camper-out in Maine, unless L he penetrates its more northern portions, has less reason to remember it as a pine-tree State than a birch-tree State. The white-pine forests have melted away like snow in the spring and gone downstream, leaving only patches here and there in the more remote and inaccessible parts. The portion of the State I saw - the valley of the Kennebec and the woods about Moxie Lake - had been shorn of its pine timber more than forty years before, and is now covered with a thick growth of spruce and cedar and various deciduous trees. But the birch abounds. Indeed, when the pine goes out the birch comes in; the race of men succeeds the race of giants. This tree has great stay-at-home virtues. Let the sombre, aspiring, mysterious pine go; the birch has humble, every-day uses. In Maine, the paper or canoe birch is turned to more account than any other tree. I read in Gibbon that the natives of ancient Assyria used to celebrate in verse or prose the three hundred and sixty uses to which the various parts and products of the palm-tree were

applied. The Maine birch is turned to so many accounts that it may well be called the palm of this region. Uncle Nathan, our guide, said it was made especially for the camper-out; yes, and for the woodman and frontiersman generally. It is a magazine, a furnishing store set up in the wilderness, whose goods are free to every comer. The whole equipment of the camp lies folded in it, and comes forth at the beck of the woodman's axe: tent, waterproof roof, boat, camp utensils, buckets, cups, plates, spoons, napkins, table-cloths, paper for letters or your journal, torches, candles, kindling-wood, and fuel. The canoe birch yields you its vestments with the utmost liberality. Ask for its coat, and it gives you its waistcoat also. Its bark seems wrapped about it layer upon layer, and comes off with great ease. We saw many rude structures and cabins shingled and sided with it, and havstacks capped with it. Near a maple-sugar camp there was a large pile of birch-bark sap-buckets, — each bucket made of a piece of bark about a yard square, folded up as the tinman folds up a sheet of tin to make a square vessel, the corners bent around against the sides and held by a wooden pin. When, one day, we were overtaken by a shower in traveling through the woods, our guide quickly stripped large sheets of the bark from a near tree, and we had each a perfect umbrella as by magic. When the rain was over, and we moved on, I wrapped mine about me

like a large leather apron, and it shielded my clothes from the wet bushes. When we came to a spring, Uncle Nathan would have a birch-bark cup ready before any of us could get a tin one out of his knapsack, and I think water never tasted so sweet as from one of these bark cups. It is exactly the thing. It just fits the mouth, and it seems to give new virtues to the water. It makes me thirsty now when I think of it. In our camp at Moxie, we made a large birch-bark box to keep the butter in; and the butter in this box, covered with some leafy boughs, I think improved in flavor day by day. Maine butter needs something to mollify and sweeten it a little, and I think birch bark will do it. In camp Uncle Nathan often drank his tea and coffee from a bark cup; the china closet in the birch-tree was always handy, and our vulgar tinware was generally a good deal mixed, and the kitchen maid not at all particular about dish-washing. We all tried the oatmeal with the maple syrup in one of these dishes, and the stewed mountain cranberries, using a birch-bark spoon, and never found service better. Uncle Nathan declared he could boil potatoes in a bark kettle, and I did not doubt him. Instead of sending our soiled napkins and table-spreads to the wash, we rolled them up into candles and torches, and drew daily upon our stores in the forest for new ones.

But the great triumph of the birch is, of course,

the bark canoe. When Uncle Nathan took us out under his little woodshed, and showed us, or rather modestly permitted us to see, his nearly finished canoe, it was like a first glimpse of some new and unknown genius of the woods or streams. It sat there on the chips and shavings and fragments of bark like some shy, delicate creature just emerged from its hiding-place, or like some wild flower just opened. It was the first boat of the kind I had ever seen, and it filled my eye completely. What woodcraft it indicated, and what a wild, free life, sylvan life, it promised! It had such a fresh, aboriginal look as I had never before seen in any kind of handiwork. Its clear, vellow-red color would have become the cheek of an Indian maiden. Then its supple curves and swells, its sinewy stays and thwarts, its bow-like contour, its tomahawk stem and stern rising quickly and sharply from its frame, were all vividly suggestive of the race from which it came. An old Indian had taught Uncle Nathan the art, and the soul of the ideal red man looked out of the boat before us. Uncle Nathan had spent two days ranging the mountains looking for a suitable tree, and had worked nearly a week on the craft. It was twelve feet long, and would seat and carry five men nicely. Three trees contribute to the making of a canoe, beside the birch, namely, the white cedar for ribs and lining, the spruce for roots and fibres to sew its joints and bind its frame,

and the pine for pitch or rosin to stop its seams and cracks. It is hand-made and home-made, or rather wood-made, in a sense that no other craft is, except a dugout, and it suggests a taste and a refinement that few products of civilization realize. The design of a savage, it yet looks like the thought of a poet, and its grace and fitness haunt the imagination. I suppose its production was the inevitable result of the Indian's wants and surroundings, but that does not detract from its beauty. It is, indeed, one of the fairest flowers the thorny plant of necessity ever bore. Our canoe, as I have intimated, was not yet finished when we first saw it, nor yet when we took it up, with its architect, upon our metaphorical backs and bore it to the woods. It lacked part of its cedar lining and the rosin upon its joints, and these were added after we reached our destination.

Though we were not indebted to the birch-tree for our guide, Uncle Nathan, as he was known in all that country, yet he matched well these woodsy products and conveniences. The birch-tree had given him a large part of his tuition, and, kneeling in his canoe and making it shoot noiselessly over the water with that subtle yet indescribably expressive and athletic play of the muscles of the back and shoulders, the boat and the man seemed born of the same spirit. He had been a hunter and trapper for over forty years; he had grown gray in

the woods, had ripened and matured there, and everything about him was as if the spirit of the woods had had the ordering of it; his whole make-up was in a minor and subdued key, like the moss and the lichens, or like the protective coloring of the game, - everything but his quick sense and penetrative glance. He was as gentle and modest as a girl; his sensibilities were like plants that grow in the shade. The woods and the solitudes had touched him with their own softening and refining influence; had, indeed, shed upon his soil of life a rich, deep leaf mould that was delightful, and that nursed, half concealed, the tenderest and wildest growths. There was grit enough back of and beneath it all, but he presented none of the rough and repelling traits of character of the conventional backwoodsman. In the spring he was a driver of logs on the Kennebec, usually having charge of a large gang of men; in the winter he was a solitary trapper and hunter in the forests.

Our first glimpse of Maine waters was Pleasant Pond, which we found by following a white, rapid, musical stream from the Kennebec three miles back into the mountains. Maine waters are for the most part dark-complexioned, Indian-colored streams, but Pleasant Pond is a pale-face among them both in name and nature. It is the only strictly silver lake I ever saw. Its waters seem almost artificially white and brilliant, though of remarkable transpar-

ency. I think I detected minute shining motes held in suspension in it. As for the trout, they are veritable bars of silver until you have cut their flesh, when they are the reddest of gold. They have no crimson or other spots, and the straight lateral line is but a faint pencil-mark. They appeared to be a species of lake trout peculiar to these waters, uniformly from ten to twelve inches in length. And these beautiful fish, at the time of our visit (last of August) at least, were to be taken only in deep water upon a hook baited with salt pork. And then you needed a letter of introduction to them. They were not to be tempted or cajoled by strangers. We did not succeed in raising a fish, although instructed how it was to be done, until one of the natives, a young and obliging farmer living hard by, came and lent his countenance to the enterprise. I sat in one end of the boat and he in the other, my pork was the same as his, and I manœuvred it as directed, and yet those fish knew his hook from mine in sixty feet of water, and preferred it four times in five. Evidently they did not bite because they were hungry, but solely for old acquaintance' sake.

Pleasant Pond is an irregular sheet of water, two miles or more in its greatest diameter, with high rugged mountains rising up from its western shore, and low rolling hills sweeping back from its eastern and northern, covered by a few sterile farms. I

was never tired, when the wind was still, of floating along its margin and gazing down into its marvelously translucent depths. The boulders and fragments of rocks were seen, at a depth of twentyfive or thirty feet, strewing its floor, and apparently as free from any covering of sediment as when they were dropped there by the old glaciers æons ago. Our camp was amid a dense grove of second growth of white pine on the eastern shore, where, for one, I found a most admirable cradle in a little depression outside of the tent, carpeted with pine needles, in which to pass the night. The camperout is always in luck if he can find, sheltered by the trees, a soft hole in the ground, even if he has a stone for a pillow. The earth must open its arms a little for us even in life, if we are to sleep well upon its bosom. I have often heard my grandfather, who was a soldier of the Revolution, tell with great gusto how he once bivouacked in a little hollow made by the overturning of a tree, and slept so soundly that he did not wake up till his cradle was half full of water from a passing shower.

What bird or other creature might represent the divinity of Pleasant Pond I do not know, but its demon, as of most northern inland waters, is the loon; and a very good demon he is, too, suggesting something not so much malevolent as arch, sardonic, ubiquitous, circumventing, with just a tinge of something inhuman and uncanny. His fiery-red

eves gleaming forth from that jet-black head are full of meaning. Then his strange horse-laughter by day, and his weird, doleful cry at night, like that of a lost and wandering spirit, recall no other bird or beast. He suggests something almost supernatural in his alertness and amazing quickness, cheating the shot and the bullet of the sportsman out of their aim. I know of but one other bird so quick, and that is the hummingbird, which I never have been able to kill with a gun. The loon laughs the shotgun to scorn, and the obliging young farmer above referred to told me he had shot at them hundreds of times with his rifle, without effect, they always dodged his bullet. We had in our party a breech-loading rifle, which weapon is perhaps an appreciable moment of time quicker than the ordinary muzzle-loader, and this the poor loon could not or did not dodge. He had not timed himself to that species of firearms, and when, with his fellow, he swam about within rifle range of our camp, letting off volleys of his wild, ironical ha-ha, he little suspected the dangerous gun that was matched against him. As the rifle cracked, both loons made the gesture of diving, but only one of them disappeared beneath the water; and when he came to the surface in a few moments, a hundred or more yards away, and saw his companion did not follow, but was floating on the water where he had last seen him, he took the alarm and sped away

in the distance. The bird I had killed was a magnificent specimen, and I looked him over with great interest. His glossy checkered coat, his banded neck, his snow-white breast, his powerful lanceshaped beak, his red eyes, his black, thin, slender. marvelously delicate feet and legs, issuing from his muscular thighs, and looking as if they had never touched the ground, his strong wings well forward, while his legs were quite at the apex, and the neat, elegant model of the entire bird, speed and quickness and strength stamped upon every feature, all delighted and lingered in the eye. The loon appears like anything but a silly bird, unless you see him in some collection, or in the shop of the taxidermist, where he usually locks very tame and goose-like Nature never meant the loon to stand up, or to use his feet and legs for other purposes than swimming. Indeed, he cannot stand except upon his tail in a perpendicular attitude; but in the collections he is poised upon his feet like a barnyard fowl, all the wildness and grace and alertness gone out of him. My specimen sits upon a table as upon the surface of the water, his feet trailing behind him, his body low and trim, his head elevated and slightly turned as if in the act of bringing that fiery eye to bear upon you, and vigilance and power stamped upon every lineament.

The loon is to the fishes what the hawk is to the birds; he swoops down to unknown depths upon

them, and not even the wary trout can elude him. Uncle Nathan said he had seen the loon disappear, and in a moment come up with a large trout, which he would cut in two with his strong beak and swallow piecemeal. Neither the loon nor the otter can bolt a fish under the water; he must come to the surface to dispose of it. (I once saw a man eat a cake under water in London.) Our guide told me he had seen the parent loon swimming with a single young one upon its back. When closely pressed, it dived, or "div," as he would have it, and left the young bird sitting upon the water. Then it too disappeared, and when the old one returned and called, it came out from the shore. On the wing overhead the loon looks not unlike a very large duck, but when it alights, it plows into the water like a bombshell. It probably cannot take flight from the land, as the one Gilbert White saw and describes in his letters was picked up in a field, unable to launch itself into the air.

From Pleasant Pond we went seven miles through the woods to Moxie Lake, following an overgrown lumberman's "tote" road, our canoe and supplies hauled on a sled by the young farmer with his three-year-old steers. I doubt if birch-bark ever made a rougher voyage than that. As I watched it above the bushes, the sled and the luggage being hidden, it appeared as if tossed in the wildest and most tempestuous sea. When the bushes closed

above it, I felt as if it had gone down, or been broken into a hundred pieces. Billows of rocks and logs, and chasms of creeks and spring runs, kept it rearing and pitching in the most frightful manner. The steers went at a spanking pace; indeed, it was a regular bovine gale; but their driver clung to their side amid the brush and boulders with desperate tenacity, and seemed to manage them by signs and nudges, for he hardly uttered his orders aloud. But we got through without any serious mishap, passing Mosquito Creek and Mosquito Pond, and flanking Mosquito Mountain, but seeing no mosquitoes, and brought up at dusk at a lumberman's old hay-barn, standing in the midst of a lonely clearing on the shores of Moxie Lake.

Here we passed the night, and were lucky in having a good roof over our heads, for it rained heavily. After we were rolled in our blankets and variously disposed upon the haymow, Uncle Nathan lulled us to sleep by a long and characteristic yarn.

I had asked him, half jocosely, if he believed in "spooks;" but he took my question seriously, and without answering it directly, proceeded to tell us what he himself had known and witnessed. It was, by the way, extremely difficult either to surprise or to steal upon any of Uncle Nathan's private opinions and beliefs about matters and things. He was as shy of all debatable subjects as a fox is of a trap. He usually talked in a circle, just as he

hunted moose and caribou, so as not to approach his point too rudely and suddenly. He would keep on the lee side of his interlocutor in spite of all one could do. He was thoroughly good and reliable, but the wild creatures of the woods, in pursuit of which he had spent so much of his life, had taught him a curious gentleness and indirection, and to keep himself in the background; he was careful that you should not scent his opinions upon any subject at all polemic, but he would tell you what he had seen and known. What he had seen and known about spooks was briefly this: In company with a neighbor he was passing the night with an old recluse who lived somewhere in these woods. Their host was an Englishman, who had the reputation of having murdered his wife some years before in another part of the country, and, deserted by his grown-up children, was eking out his days in poverty amid these solitudes. The three men were sleeping upon the floor, with Uncle Nathan next to a rude partition that divided the cabin into two rooms. At his head there was a door that opened. into this other apartment. Late at night, Uncle Nathan said, he awoke and turned over, and his mind was occupied with various things, when he heard somebody behind the partition. He reached over and felt that both of his companions were in their places beside him, and he was somewhat surprised. The person, or whatever it was, in the other

room moved about heavily, and pulled the table from its place beside the wall to the middle of the floor. "I was not dreaming," said Uncle Nathan, "I felt of my eyes twice to make sure, and they were wide open." Presently the door opened; he was sensible of the draught upon his head, and a woman's form stepped heavily past him; he felt the "swirl" of her skirts as she went by. Then there was a loud noise in the room, as if some one had fallen his whole length upon the floor. "It jarred the house," said he, "and woke everybody up. I asked old Mr. - if he heard that noise. 'Yes,' said he, 'it was thunder,' But it was not thunder, I know that;" and then added, "I was no more afraid than I am this minute. I never was the least mite afraid in my life. And my eyes were wide open," he repeated; "I felt of them twice; but whether that was the speret of that man's murdered wife or not, I cannot tell. They said she was an uncommon heavy woman." Uncle Nathan was a man of unusually quick and acute senses, and he did not doubt their evidence on this occasion any more than he did when they prompted him to level his rifle at a bear or a moose.

Moxie Lake lies much lower than Pleasant Pond, and its waters compared with those of the latter are as copper compared with silver. It is very irregular in shape; now narrowing to the dimensions of a slow-moving grassy creek, then expand-

ing into a broad deep basin with rocky shores, and commanding the noblest mountain scenery. It is rarely that the pond-lily and the speckled trout are found together, — the fish the soul of the purest spring water, the flower the transfigured spirit of the dark mud and slime of sluggish summer streams and ponds; yet in Moxie they were both found in perfection. Our camp was amid the birches, poplars, and white cedars near the head of the lake, where the best fishing at this season was to be had. Moxie has a small oval head, rather shallow, but bumpy with rocks; a long, deep neck, full of springs, where the trout lie; and a very broad chest, with two islands tufted with pine-trees for breasts. We swam in the head, we fished in the neck, or in a small section of it, a space about the size of the Adam's apple, and we paddled across and around the broad expanse below. Our birchbark was not finished and christened till we reached Moxie. The cedar lining was completed at Pleasant Pond, where we had the use of a bateau, but the rosin was not applied to the seams till we reached this lake. When I knelt down in it for the first time, and put its slender maple paddle into the water, it sprang away with such quickness and speed that it disturbed me in my seat. I had spurred a more restive and spirited steed than I was used to. In fact, I had never been in a craft that sustained so close a relation to my will, and

was so responsive to my slightest wish. When I caught my first large trout from it, it sympathized a little too closely, and my enthusiasm started a leak, which, however, with a live coal and a piece of rosin, was quickly mended. You cannot perform much of a war-dance in a birch-bark canoe; better wait till you get on dry land. Yet as a boat it is not so shy and "ticklish" as I had imagined. One needs to be on the alert, as becomes a sportsman and an angler, and in his dealings with it must charge himself with three things, — precision, moderation, and circumspection.

Trout weighing four and five pounds have been taken at Moxie, but none of that size came to our hand. I realized the fondest hopes I had dared to indulge in when I hooked the first two-pounder of my life, and my extreme solicitude lest he get away I trust was pardonable. My friend, in relating the episode in camp, said I had implored him to row me down in the middle of the lake that I might have room to manœuvre my fish. But the slander has barely a grain of truth in it. The water near us showed several old stakes broken off just below the surface, and my fish was determined to wrap my leader about one of these stakes; it was only for the clear space a few yards farther out that I prayed. It was not long after that my friend found himself in an anxious frame of mind. He hooked a large trout, which came home on him so suddenly

that he had not time to reel up his line, and in his extremity he stretched his tall form into the air and lifted up his pole to an incredible height. He checked the trout before it got under the boat, but dared not come down an inch, and then began his amusing further elongation in reaching for his reel with one hand, while he carried it ten feet into the air with the other. A step-ladder would perhaps have been more welcome to him just then than at any other moment during his life. But the trout was saved, though my friend's buttons and suspenders suffered.

We learned a new trick in fly-fishing here, worth disclosing. It was not one day in four that the trout would take the fly on the surface. When the south wind was blowing and the clouds threatened rain, they would at times, notably about three o'clock, rise handsomely. But on all other occasions it was rarely that we could entice them up through the twelve or fifteen feet of water. Earlier in the season they are not so lazy and indifferent, but the August languor and drowsiness were now upon them. So we learned by a lucky accident to fish deep for them, even weighting our leaders with a shot, and allowing the flies to sink nearly to the bottom. After a moment's pause we would draw them slowly up, and when half or two thirds of the way to the top the trout would strike, when the sport became lively enough. Most of our fish

were taken in this way. There is nothing like the flash and the strike at the surface, and perhaps only the need of food will ever tempt the genuine angler into any more prosaic style of fishing; but if you must go below the surface, a shotted leader is the best thing to use.

Our camp-fire at night served more purposes than one; from its embers and flickering shadows, Uncle Nathan read us many a tale of his life in the woods. They were the same old hunter's stories, except that they evidently had the merit of being strictly true, and hence were not very thrilling or marvelous. Uncle Nathan's tendency was rather to tone down and belittle his experiences than to exaggerate them. If he ever bragged at all (and I suspect he did just a little, when telling us how he outshot one of the famous riflemen of the American team, whom he was guiding through these woods), he did it in such a sly, roundabout way that it was hard to catch him at it. His passage with the rifleman referred to shows the difference between the practical offhand skill of the hunter in the woods and the science of the long-range target-hitter. Mr. Bull's Eye had heard that his guide was a capital shot, and had seen some proof of it, and hence could not rest till he had had a trial of skill with him. Uncle Nathan, being the challenged party, had the right to name the distance and the conditions. A piece of white paper the size of a silver dollar was

put up on a tree twelve rods off, the contestants to fire three shots each offhand. Uncle Nathan's first bullet barely missed the mark, but the other two were planted well into it. Then the great rifleman took his turn, and missed every time.

"By hemp!" said Uncle Nathan, "I was sorry I shot so well, Mr. —— took it so to heart; and I had used his own rifle, too. He did not get over it for a week."

But far more ignominious was the failure of Mr. Bull's Eve when he saw his first bear. They were paddling slowly and silently down Dead River, when the guide heard a slight noise in the bushes just behind a little bend. He whispered to the rifleman, who sat kneeling in the bow of the boat, to take his rifle. But instead of doing so, he picked up his two-barreled shotgun. As they turned the point, there stood a bear not twenty yards away drinking from the stream. Uncle Nathan held the canoe, while the man who had come so far in quest of this very game was trying to lay down his shotgun and pick up his rifle. "His hand moved like the hand of a clock," said Uncle Nathan, "and I could hardly keep my seat. I knew the bear would see us in a moment more and run." Instead of laying his gun by his side, where it belonged, he reached it across in front of him, and laid it upon his rifle, and in trying to get the latter from under it a noise was made; the bear heard it and raised

his head. Still there was time, for as the bear sprang into the woods he stopped and looked back,
— "as I knew he would," said the guide; yet the marksman was not ready. "By hemp! I could have shot three bears," exclaimed Uncle Nathan, "while he was getting that rifle to his face!"

Poor Mr. Bull's Eye was deeply humiliated. "Just the chance I had been looking for," he said, "and my wits suddenly left me."

As a hunter, Uncle Nathan always took the game on its own terms, that of still-hunting. He even shot foxes in this way, going into the fields in the fall just at break of day, and watching for them about their mousing haunts. One morning, by these tactics, he shot a black fox; a fine specimen, he said, and a wild one, for he stopped and looked and listened every few yards.

He had killed over two hundred moose, a large number of them at night on the lakes. His method was to go out in his canoe and conceal himself by some point or island, and wait till he heard the game. In the fall the moose comes into the water to eat the large fibrous roots of the pond-lilies. He splashes along till he finds a suitable spot, when he begins feeding, sometimes thrusting his head and neck several feet under water. The hunter listens, and when the moose lifts his head and the rills of water run from it, and he hears him "swash" the

to start. Silently as a shadow he creeps up on the moose, who, by the way, it seems, never suspects the approach of danger from the water side. If the hunter accidentally makes a noise, the moose looks toward the shore for it. There is always a slight gleam on the water, Uncle Nathan says, even in the darkest night, and the dusky form of the moose can be distinctly seen upon it. When the hunter sees this darker shadow, he lifts his gun to the sky and gets the range of its barrels, then lowers it till it covers the mark, and fires.

The largest moose Uncle Nathan ever killed is mounted in the State House at Augusta. He shot him while hunting in winter on snow-shoes. The moose was reposing upon the ground, with his head stretched out in front of him, as one may sometimes see a cow resting. The position was such that only a quartering shot through the animal's hip could reach its heart. Studying the problem carefully, and taking his own time, the hunter fired. The moose sprang into the air, turned, and came with tremendous strides straight toward him. "I knew he had not seen or scented me," said Uncle Nathan, "but, by hemp, I wished myself somewhere else just then; for I was lying right down in his path." But the noble animal stopped a few yards short, and fell dead with a bullet hole through his heart.

When the moose yard in the winter, that is,

restrict their wanderings to a well-defined section of the forest or mountain, trampling down the snow and beating paths in all directions, they browse off only the most dainty morsels first; when they go over the ground a second time they crop a little cleaner; the third time they sort still closer, till by and by nothing is left. Spruce, hemlock, poplar, the barks of various trees, everything within reach, is cropped close. When the hunter comes upon one of these yards, the problem for him to settle is, Where are the moose? for it is absolutely necessary that he keep on the lee side of them. So he considers the lay of the land, the direction of the wind, the time of day, the depth of the snow, examines the spoor, the cropped twigs, and studies every hint and clew like a detective. Uncle Nathan said he could not explain to another how he did it. but he could usually tell in a few minutes in what direction to look for the game. His experience had ripened into a kind of intuition or winged reasoning that was above rules.

He said that most large game, — deer, caribou, moose, bear, — when started by the hunter and not much scared, were sure to stop and look back before disappearing from sight; he usually waited for this last and best chance to fire. He told us of a huge bear he had seen one morning while still-hunting foxes in the fields; the bear saw him, and got into the woods before he could get a good shot. In her

course, some distance up the mountain, was a bald, open spot, and he felt sure when she crossed this spot she would pause and look behind her; and sure enough, like Lot's wife, her curiosity got the better of her; she stopped to have a final look, and her travels ended there and then.

Uncle Nathan had trapped and shot a great many bears, and some of his experiences revealed an unusual degree of sagacity in this animal. One April, when the weather began to get warm and thawy, an old bear left her den in the rocks, and built a large, warm nest of grass, leaves, and the park of the white cedar, under a tall balsam fir that stood in a low, sunny, open place amid the mountains. Hither she conducted her two cubs. and the family began life in what might be called their spring residence. The tree above them was for shelter, and for refuge for the cubs in case danger approached, as it soon did in the form of Uncle Nathan. He happened that way soon after the bear had moved. Seeing her track in the snow, he concluded to follow it. When the bear had passed, the snow had been soft and sposhy, and she had "slumped," he said, several inches. It was now hard and slippery. As he neared the tree, the track turned and doubled, and tacked this way and that, and led through the worst brush and brambles to be found. This was a shrewd thought of the old bear; she could thus hear her enemy coming a long

time before he drew very near. When Uncle Nathan finally reached the nest, he found it empty, but still warm. Then he began to circle about and look for the bear's footprints or nailprints upon the frozen snow. Not finding them the first time, he took a larger circle, then a still larger; finally he made a long dètour, and spent nearly an hour searching for some clew to the direction the bear had taken, but all to no purpose. Then he returned to the tree and scrutinized it. The foliage was very dense, but presently he made out one of the cubs near the top, standing up amid the branches, and peering down at him. This he killed. Further search revealed only a mass of foliage apparently more dense than usual, but a bullet sent into it was followed by loud whimpering and crying, and the other baby bear came tumbling down. In leaving the place, greatly puzzled as to what had become of the mother bear, Uncle Nathan followed another of her frozen tracks, and after about a quarter of a mile saw beside it, upon the snow, the fresh trail he had been in search of. In making her escape, the bear had stepped exactly in her old tracks that were hard and icy, and had thus left no mark till she took to the snow again.

During his trapping expeditions into the woods in midwinter, I was curious to know how Uncle Nathan passed the nights, as we were twice pinched with the cold at that season in our tent and blan-

kets. It was no trouble to keep warm, he said, in the coldest weather. As night approached, he would select a place for his camp on the side of a hill. With one of his snow-shoes he would shovel out the snow till the ground was reached, carrying the snow out in front, as we scrape the earth out of the side of a hill to level up a place for the house and yard. On this level place, which, however, was made to incline slightly toward the hill, his bed of boughs was made. On the ground he had uncovered he built his fire. His bed was thus on a level with the fire, and the heat could not thaw the snow under him and let him down, or the burning logs roll upon him. With a steep ascent behind it, the fire burned better, and the wind was not so apt to drive the smoke and blaze in upon him. Then, with the long, curving branches of the spruce stuck thickly around three sides of the bed, and curving over and uniting their tops above it, a shelter was formed that would keep out the cold and the snow, and that would catch and retain the warmth of the fire. Rolled in his blanket in such a nest, Uncle Nathan had passed hundreds of the most frigid winter nights.

One day we made an excursion of three miles through the woods to Bald Mountain, following a dim trail. We saw, as we filed silently along, plenty of signs of caribou, deer, and bear, but were not blessed with a sight of either of the animals them-

selves. I noticed that Uncle Nathan, in looking through the woods, did not hold his head as we did, but thrust it slightly forward, and peered under the branches like a deer, or other wild creature.

The summit of Bald Mountain was the most impressive mountain-top I had ever seen, mainly, perhaps, because it was one enormous crown of nearly naked granite. The rock had that gray, elemental, eternal look which granite alone has. One seemed to be face to face with the gods of the fore-world. Like an atom, like a breath of to-day, we were suddenly confronted by abysmal geologic time, the eternities past and the eternities to come. The enormous cleavage of the rocks, the appalling cracks and fissures, the rent boulders, the smitten granite floors, gave one a new sense of the power of heat and frost. In one place we noticed several deep parallel grooves, made by the old glaciers. In the depressions on the summit there was a hard, black, peaty-like soil that looked indescribably ancient and unfamiliar. Out of this mould, which might have come from the moon or the interplanetary spaces, were growing mountain cranberries and blueberries or huckleberries. We were soon so absorbed in gathering the latter that we were quite oblivious of the grandeurs about us. It is these blueberries that attract the bears. In eating them, Uncle Nathan said, they take the bushes in their mouths, and by an upward movement strip them clean both of

leaves and berries. We were constantly on the lookout for the bears, but failed to see any. Yet a few days afterward, when two of our party returned here and encamped upon the mountain, they saw five during their stay, but failed to get a good shot. The rifle was in the wrong place each time. The man with the shotgun saw an old bear and two cubs lift themselves from behind a rock and twist their noses around for his scent, and then shrink away. They were too far off for his buckshot. I must not forget the superb view that lay before us, a wilderness of woods and waters stretching away to the horizon on every hand. Nearly a dozen lakes and ponds could be seen, and in a clearer atmosphere the foot of Moosehead Lake would have been visible. The highest and most striking mountain to be seen was Mount Bigelow, rising above Dead River, far to the west, and its two sharp peaks notching the horizon like enormous saw-teeth. We walked around and viewed curiously a huge boulder on the top of the mountain that had been split in two vertically, and one of the halves moved a few feet out of its bed. It looked recent and familiar. but suggested gods instead of men. The force that moved the rock had plainly come from the north. I thought of a similar boulder I had seen not long before on the highest point of the Shawangunk Mountains, in New York, one side of which is propped up with a large stone, as wall-builders prop

up a rock to wrap a chain around it. The rock seems poised lightly, and has but a few points of bearing. In this instance, too, the power had come from the north.

The prettiest botanical specimen my trip vielded was a little plant that bears the ugly name of horned bladderwort, and which I found growing in marshy places along the shores of Moxie Lake. It has a slender, naked stem nearly a foot high, crowned by two or more large deep vellow flowers, - flowers the shape of little bonnets or hoods. One almost expected to see tiny faces looking out of them. This illusion is heightened by the horn or spur of the flower, which projects from the hood like a long tapering chin, - some masker's device. Then the cape behind, - what a smart upward curve it has, as if spurned by the fairy shoulders it was meant to cover! But perhaps the most notable thing about the flower was its fragrance, - the richest and strongest perfume I have ever found in a wild flower. This our botanist, Gray, does not mention, as if one should describe the lark and forget its song. The fragrance suggested that of white clover, but was more rank and spicy.

The woods about Moxie Lake were literally carpeted with linnea. I had never seen it in such profusion. In early summer, the period of its bloom what a charming spectacle the mossy floors of these remote woods must present! The flowers are pur-

ple rose-color, nodding and fragrant. Another very abundant plant in these woods was the *Clintonia borealis*. Uncle Nathan said it was called "bear's corn," though he did not know why. The only noticeable flower by the Maine roadsides at this season that is not common in other parts of the country is the harebell. Its bright blue, bell-shaped corolla shone out from amid the dry grass and weeds all along the route. It was one of the most delicate roadside flowers I had ever seen,

The only new bird I saw in Maine was the pileated woodpecker, or black "log-cock," called by Uncle Nathan "woodcock." I had never before seen or heard this bird, and its loud cackle in the woods about Moxie was a new sound to me. It is the wildest and largest of our northern woodpeckers, and the rarest. Its voice and the sound of its hammer are heard only in the depths of the northern woods. It is about as large as a crow, and nearly as black.

We stayed a week at Moxie, or until we became surfeited with its trout, and had killed the last merganser duck that lingered about our end of the lake. The trout that had accumulated on our hands we had kept alive in a large champagne basket submerged in the lake, and the morning we broke camp the basket was towed to the shore and opened; and after we had feasted our eyes upon the superb spectacle, every trout — there were

twelve or fifteen, some of them two-pounders—was allowed to swim back into the lake. They went leisurely, in couples and in trios, and were soon kicking up their heels in their old haunts. I expect that the divinity who presides over Moxie will see to it that every one of those trout, doubled in weight, comes to our basket in the future.

VII

WINTER NEIGHBORS

THE country is more of a wilderness, more of a wild solitude, in the winter than in the summer. The wild comes out. The urban, the cultivated, is hidden or negatived. You hardly know a good field from a poor, a meadow from a pasture, a park from a forest. Lines and boundaries are disregarded; gates and bar-ways are unclosed; man lets go his hold upon the earth; title-deeds are deep buried beneath the snow; the best-kept grounds relapse to a state of nature; under the pressure of the cold, all the wild creatures become outlaws, and roam abroad beyond their usual haunts. The partridge comes to the orchard for buds; the rabbit comes to the garden and lawn; the crows and jays come to the ash-heap and corncrib, the snow buntings to the stack and to the barnyard; the sparrows pilfer from the domestic fowls; the pine grosbeak comes down from the north and shears your maples of their buds; the fox prowls about your premises at night; and the red squirrels find your grain in the barn or steal the butternuts from your attic. In fact, winter, like

some great calamity, changes the status of most creatures and sets them adrift. Winter, like poverty, makes us acquainted with strange bedfellows.

For my part, my nearest approach to a strange bedfellow is the little grav rabbit that has taken up her abode under my study floor. As she spends the day here and is out larking at night, she is not much of a bedfellow, after all. It is probable that I disturb her slumbers more than she does mine. I think she is some support to me under there, -a silent, wide-eyed witness and backer; a type of the gentle and harmless in savage nature. She has no sagacity to give me or to lend me, but that soft, nimble foot of hers, and that touch as of cotton wherever she goes, are worthy of emulation. I think I can feel her good-will through the floor, and I hope she can mine. When I have a happy thought, I imagine her ears twitch, especially when I think of the sweet apple I will place by her doorway at night. I wonder if that fox chanced to catch a glimpse of her the other night when he stealthily leaped over the fence near by and walked along between the study and the house? How clearly one could read that it was not a little dog that had passed there! There was something furtive in the track; it shied off away from the house and around it, as if eying it suspiciously; and then it had the caution and deliberation of the fox.bold, bold, but not too bold; wariness was in every

footprint. If it had been a little dog that had chanced to wander that way, when he crossed my path he would have followed it up to the barn and have gone smelling around for a bone; but this sharp, cautious track held straight across all others, keeping five or six rods from the house, up the hill, across the highway toward a neighboring farmstead, with its nose in the air, and its eye and ear alert, so to speak.

A winter neighbor of mine, in whom I am interested, and who perhaps lends me his support after his kind, is a little red owl, whose retreat is in the heart of an old apple-tree just over the fence. Where he keeps himself in spring and summer, I do not know, but late every fall, and at intervals all winter, his hiding-place is discovered by the jays and nuthatches, and proclaimed from the treetops for the space of half an hour or so, with all the powers of voice they can command. Four times during one winter they called me out to behold this little ogre feigning sleep in his den, sometimes in one apple-tree, sometimes in another. Whenever I heard their cries, I knew my neighbor was being berated. The birds would take turns at looking in upon him, and uttering their alarm-notes. Every jay within hearing would come to the spot, and at once approach the hole in the trunk or limb, and with a kind of breathless eagerness and excitement take a peep at the owl, and then join the

outcry. When I approached they would hastily !ake a final look, and then withdraw and regard my movements intently. After accustoming my eve to the faint light of the cavity for a few moments, I could usually make out the owl at the bottom feigning sleep. Feigning, I say, because this is what he really did, as I first discovered one day when I cut into his retreat with the axe. The loud blows and the falling chips did not disturb him at all When I reached in a stick and pulled him over on his side, leaving one of his wings spread out, he made no attempt to recover himself, but lay among the chips and fragments of decayed wood, like a part of themselves. Indeed, it took a sharp eve to distinguish him. Not till I had pulled him forth by one wing, rather rudely, did he abandon his trick of simulated sleep or death. Then, like a detected pickpocket, he was suddenly transformed into another creature. His eyes flew wide open, his talons clutched my finger, his ears were depressed, and every motion and look said, "Hands off, at your peril." Finding this game did not work, he soon began to "play possum" again. I put a cover over my study wood-box and kept him captive for a week. Look in upon him at any time, night or day, and he was apparently wrapped in the profoundest slumber; but the live mice which I put into his box from time to time found his sleep was easily broken; there would be a sud-

den rustle in the box, a faint squeak, and then silence. After a week of captivity I gave him his freedom in the full sunshine: no trouble for him to see which way and where to go.

Just at dusk in the winter nights, I often hear his soft bur-r-r, very pleasing and bell-like. What a furtive, woody sound it is in the winter stillness, so unlike the harsh scream of the hawk! But all the ways of the owl are ways of softness and duskiness. His wings are shod with silence, his plumage is edged with down.

Another owl neighbor of mine, with whom I pass the time of day more frequently than with the last, lives farther away. I pass his castle every night on my way to the post-office, and in winter, if the hour is late enough, am pretty sure to see him standing in his doorway, surveying the passers-by and the landscape through narrow slits in his eyes. For four successive winters now have I observed him. As the twilight begins to deepen, he rises up out of his cavity in the apple-tree, scarcely faster than the moon rises from behind the hill, and sits in the opening, completely framed by its outlines of gray bark and dead wood, and by his protective coloring virtually invisible to every eye that does not know he is there. Probably my own is the only eye that has ever penetrated his secret, and mine never would have done so had I not chanced on one occasion to see him leave his retreat

and make a raid upon a shrike that was impaling a shrew-mouse upon a thorn in a neighboring tree, and which I was watching. Failing to get the mouse, the owl returned swiftly to his cavity, and ever since, while going that way, I have been on the lookout for him. Dozens of teams and footpassengers pass him late in the day, but he regards them not, nor they him. When I come along and pause to salute him, he opens his eyes a little wider, and, appearing to recognize me, quickly shrinks and fades into the background of his door in a very weird and curious manner. When he is not at his outlook, or when he is, it requires the best powers of the eye to decide the point, as the empty cavity itself is almost an exact image of him. If the whole thing had been carefully studied, it could not have answered its purpose better. The owl stands quite perpendicular, presenting a front of light mottled gray; the eyes are closed to a mere slit, the ear-feathers depressed, the beak buried in the plumage, and the whole attitude is one of silent, motionless waiting and observation. If a mouse should be seen crossing the highway, or scudding over any exposed part of the snowy surface in the twilight, the owl would doubtless swoop down upon it. I think the owl has learned to distinguish me from the rest of the passers-by; at least, when I stop before him, and he sees himself observed, he backs down into his den, as I have said, in a very

amusing manner. Whether bluebirds, nuthatches, and chickadees—birds that pass the night in cavities of trees—ever run into the clutches of the dozing owl, I should be glad to know. My impression is, however, that they seek out smaller cavities. An old willow by the roadside blew down one summer, and a decayed branch broke open, revealing a brood of half-fledged owls, and many feathers and quills of bluebirds, orioles, and other songsters, showing plainly enough why all birds fear and berate the owl.

The English house sparrows, which are so rapidly increasing among us, and which must add greatly to the food supply of the owls and other birds of prey, seek to baffle their enemies by roosting in the densest evergreens they can find, in the arbor-vitæ, and in hemlock hedges. Soft-winged as the owl is, he cannot steal in upon such a retreat without giving them warning.

These sparrows are becoming about the most noticeable of my winter neighbors, and a troop of them every morning watch me put out the hens' feed, and soon claim their share. I rather encouraged them in their neighborliness, till one day I discovered the snow under a favorite plum-tree where they most frequently perched covered with the scales of the fruit-buds. On investigating, I found that the tree had been nearly stripped of its buds, — a very unneighborly act on the part of the spar-

rows, considering, too, all the cracked corn I had scattered for them. So I at once served notice on them that our good understanding was at an end. And a hint is as good as a kick with this bird. The stone I hurled among them, and the one with which I followed them up, may have been taken as a kick; but they were only a hint of the shotgun that stood ready in the corner. The sparrows left in high dudgeon, and were not back again in some days, and were then very shy. No doubt the time is near at hand when we shall have to wage serious war upon these sparrows, as they long have had to do on the continent of Europe. And yet it will be hard to kill the little wretches, the only Old World birds we have. When I take down my gun to shoot them I shall probably remember that the Psalmist said, "I watch, and am as a sparrow alone upon the housetop," and maybe the recollection will cause me to stay my hand. The sparrows have the Old World hardiness and prolificness; they are wise and tenacious of life, and we shall find it by and by no small matter to keep them in check. Our native birds are much different, less prolific, less shrewd, less aggressive and persistent, less quick-witted and able to read the note of danger or hostility, - in short, less sophisticated. Most of our birds are yet essentially wild, that is, little changed by civilization. In winter, especially, they sweep by me and around me in flocks, - the Canada sparrow, the

snow bunting, the shore lark, the pine grosbeak, the redpoll, the cedar-bird, - feeding upon frozen apples in the orchard, upon cedar-berries, upon maple-buds, and the berries of the mountain-ash, and the celtis, and upon the seeds of the weeds that rise above the snow in the fields, or upon the havseed dropped where the cattle have been foddered in the barnyard or about the distant stack; but vet taking no heed of man, in no way changing their habits so as to take advantage of his presence in nature. The pine grosbeaks will come in numbers upon your porch to get the black drupes of the honeysuckle or the woodbine, or within reach of your windows to get the berries of the mountainash, but they know you not; they look at you as innocently and unconcernedly as at a bear or moose in their native north, and your house is no more to them than a ledge of rocks.

The only ones of my winter neighbors that actually rap at my door are the nuthatches and woodpeckers, and these do not know that it is my door. My retreat is covered with the bark of young chestnut-trees, and the birds, I suspect, mistake it for a huge stump that ought to hold fat grubs (there is not even a book-worm inside of it), and their loud rapping often makes me think I have a caller indeed. I place fragments of hickory-nuts in the interstices of the bark, and thus attract the nuthatches; a bone upon my window-sill attracts both

nuthatches and the downy woodpecker. They peep in curiously through the window upon me, pecking away at my bone, too often a very poor one. A bone nailed to a tree a few feet in front of the window attracts crows as well as lesser birds. Even the slate-colored snowbird, a seed-eater, comes and nibbles it occasionally.

The bird that seems to consider he has the best right to the bone both upon the tree and upon the sill is the downy woodpecker, my favorite neighbor among the winter birds, to whom I will mainly devote the remainder of this chapter. His retreat is but a few paces from my own, in the decayed limb of an apple-tree, which he excavated several autumns ago. I say "he" because the red plume on the top of his head proclaims the sex. It seems not to be generally known to our writers upon ornithology that certain of our woodpeckers - probably all the winter residents - each fall excavate a limb or the trunk of a tree in which to pass the winter, and that the cavity is abandoned in the spring, probably for a new one in which nidification takes place. So far as I have observed, these cavities are drilled out only by the males. Where the females take up their quarters I am not so well informed, though I suspect that they use the abandoned holes of the males of the previous year.

The particular woodpecker to which I refer drilled his first hole in my apple-tree one fall four or five

years ago. This he occupied till the following spring. when he abandoned it. The next fall he began a hole in an adjoining limb, later than before, and when it was about half completed a female took possession of his old quarters. I am sorry to say that this seemed to enrage the male very much, and he persecuted the poor bird whenever she appeared upon the scene. He would fly at her spitefully and drive her off. One chilly November morning, as I passed under the tree, I heard the hammer of the little architect in his cavity, and at the same time saw the persecuted female sitting at the entrance of the other hole as if she would fain come out. She was actually shivering, probably from both fear and cold. I understood the situation at a glance; the bird was afraid to come forth and brave the anger of the male. Not till I had rapped smartly upon the limb with my stick did she come out and attempt to escape; but she had not gone ten feet from the tree before the male was in hot pursuit, and in a few moments had driven her back to the same tree, where she tried to avoid him among the branches. A few days after, he rid himself of his unwelcome neighbor in the following ingenious manner: he fairly scuttled the other cavity; he drilled a hole into the bottom of it that let in the light and the cold, and I saw the female there no more. I did not see him in the act of rendering this tenement uninhabitable; but one

morning, behold it was punctured at the bottom, and the circumstances all seemed to point to him as the author of it. There is probably no gallantry among the birds except at the mating season. I have frequently seen the male woodpecker drive the female away from the bone upon the tree. When she hopped around to the other end and timidly nibbled it, he would presently dart spitefully at her. She would then take up her position in his rear and wait till he had finished his meal. The position of the female among the birds is very much the same as that of women among savage tribes. Most of the drudgery of life falls upon her, and the leavings of the males are often her lot.

My bird is a genuine little savage, doubtless, but I value him as a neighbor. It is a satisfaction during the cold or stormy winter nights to know he is warm and cozy there in his retreat. When the day is bad and unfit to be abroad in, he is there too. When I wish to know if he is at home, I go and rap upon his tree, and, if he is not too lazy or indifferent, after some delay he shows his head in his round doorway about ten feet above, and looks down inquiringly upon me, — sometimes latterly I think half resentfully, as much as to say, "I would thank you not to disturb me so often." After sundown, he will not put his head out any more when I call, but as I step away I can get a glimpse of

him inside looking cold and reserved. He is a late riser, especially if it is a cold or disagreeable morning, in this respect being like the barn fowls; it is sometimes near nine o'clock before I see him leave his tree. On the other hand, he comes home early, being in, if the day is unpleasant, by four P. M. He lives all alone; in this respect I do not commend his example. Where his mate is, I should like to know.

I have discovered several other woodpeckers in adjoining orchards, each of which has a like home, and leads a like solitary life. One of them has excavated a dry limb within easy reach of my hand, doing the work also in September. But the choice of tree was not a good one; the limb was too much decayed, and the workman had made the cavity too large; a chip had come out, making a hole in the outer wall. Then he went a few inches down the limb and began again, and excavated a large, commodious chamber, but had again come too near the surface; scarcely more than the bark protected him in one place, and the limb was very much weakened. Then he made another attempt still farther down the limb, and drilled in an inch or two, but seemed to change his mind; the work stopped, and I concluded the bird had wisely abandoned the tree. Passing there one cold, rainy November day, I thrust in my two fingers and was surprised to feel something soft and warm: as I drew away my hand

the bird came out, apparently no more surprised than I was. It had decided, then, to make its home in the old limb; a decision it had occasion to regret, for not long after, on a stormy night, the branch gave way and fell to the ground:—

"When the bough breaks the cradle will fall, And down will come baby, cradle and all."

Such a cavity makes a snug, warm home, and when the entrance is on the under side of the limb. as is usual, the wind and snow cannot reach the occupant. Late in December, while crossing a high, wooded mountain, lured by the music of foxhounds, I discovered fresh yellow chips strewing the new-fallen snow, and at once thought of my woodpeckers. On looking around I saw where one had been at work excavating a lodge in a small vellow birch. The orifice was about fifteen feet from the ground, and appeared as round as if struck with a compass. It was on the east side of the tree, so as to avoid the prevailing west and northwest winds. As it was nearly two inches in diameter, it could not have been the work of the downy, but must have been that of the hairy, or else the yellowbellied woodpecker. His home had probably been wrecked by some violent wind, and he was thus providing himself another. In digging out these retreats the woodpeckers prefer a dry, brittle trunk, not too soft. They go in horizontally to the centre

and then turn downward, enlarging the tunnel as they go, till when finished it is the shape of a long, deep pear.

Another trait our woodpeckers have that endears them to me, and that has never been pointedly noticed by our ornithologists, is their habit of drumming in the spring. They are songless birds, and vet all are musicians; they make the dry limbs eloquent of the coming change. Did you think that loud, sonorous hammering which proceeded from the orchard or from the near woods on that still March or April morning was only some bird getting its breakfast? It is downy, but he is not rapping at the door of a grub; he is rapping at the door of spring, and the dry limb thrills beneath the ardor of his blows. Or, later in the season, in the dense forest or by some remote mountain lake, does that measured rhythmic beat that breaks upon the silence, first three strokes following each other rapidly, succeeded by two louder ones with longer intervals between them, and that has an effect upon the alert ear as if the solitude itself had at last found a voice, - does that suggest anything less than a deliberate musical performance? In fact, our woodpeckers are just as characteristically drummers as is the ruffed grouse, and they have their particular limbs and stubs to which they resort for that purpose. Their need of expression is apparently just as great as that of the song-birds, and it

is not surprising that they should have found cut that there is music in a dry, seasoned limb which can be evoked beneath their beaks.

A few seasons ago, a downy woodpecker, probably the individual one who is now my winter neighbor, began to drum early in March in a partly decaved apple-tree that stands in the edge of a narrow strip of woodland near me. When the morning was still and mild I would often hear him through my window before I was up, or by half-past six o'clock, and he would keep it up pretty briskly till nine or ten o'clock, in this respect resembling the grouse, which do most of their drumming in the forenoon. His drum was the stub of a dry limb about the size of one's wrist. The heart was decaved and gone, but the outer shell was hard and resonant. The bird would keep his position there for an hour at a time. Between his drummings he would preen his plumage and listen as if for the response of the female, or for the drum of some rival. How swift his head would go when he was delivering his blows upon the limb! His beak wore the surface perceptibly. When he wished to change the key, which was qu'te often, he would shift his position an inch or two to a knot which gave out a higher, shriller note. When I climbed up to examine his drum, he was much disturbed. I did not know he was in the vicinity, but it seems he saw me from a near tree, and came in haste to the

neighboring branches, and with spread plumage and a sharp note demanded plainly enough what my business was with his drum. I was invading his privacy, desecrating his shrine, and the bird was much put out. After some weeks the female appeared; he had literally drummed up a mate; his urgent and oft-repeated advertisement was answered. Still the drumming did not cease, but was quite as fervent as before. If a mate could be won by drumming, she could be kept and entertained by more drumming; courtship should not end with marriage. If the bird felt musical before, of course he felt much more so now. Besides that, the gentle deities needed propitiating in behalf of the nest and young as well as in behalf of the mate. After a time a second female came, when there was war between the two. I did not see them come to blows, but I saw one female pursuing the other about the place, and giving her no rest for several days. She was evidently trying to run her out of the neighborhood. Now and then, she, too, would drum briefly, as if sending a triumphant message to her mate.

The woodpecke's do not each have a particular dry limb to which they resort at all times to drum, like the one I have described. The woods are full of suitable branches, and they drum more or less here and there as they are in quest of food; yet I am convinced each one has its favorite spot, like

the grouse, to which it resorts especially in the morning. The sugar-maker in the maple-woods may notice that this sound proceeds from the same tree or trees about his camp with great regularity. A woodpecker in my vicinity has drummed for two seasons on a telegraph pole, and he makes the wires and glass insulators ring. Another drums on a thin board on the end of a long grape-arbor, and on still mornings can be heard a long distance.

A friend of mine in a Southern city tells me of a red-headed woodpecker that drums upon a lightning-rod on his neighbor's house. Nearly every clear, still morning at certain seasons, he says, this musical rapping may be heard. "He alternates his tapping with his stridulous call, and the effect on a cool, autumn-like morning is very pleasing."

The high-hole appears to drum more promiscuously than does downy. He utters his long, loud spring call, whick—whick—whick—whick, and then begins to rap with his beak upon his perch before the last note has reached your ear. I have seen him drum sitting upon the ridge of the barn. The log-cock, or pileated woodpecker, the largest and wildest of our Northern species, I never have heard drum. His blows should wake the echoes.

When the woodpecker is searching for food, or laying siege to some hidden grub, the sound of his hammer is dead or muffled, and is heard but a few yards. It is only upon dry, seasoned timber, freed

of its bark, that he beats his reveille to spring and wooes his mate.

Wilson was evidently familiar with this vernal drumming of the woodpeckers, but quite misinterprets it. Speaking of the red-bellied species, he says: "It rattles like the rest of the tribe on the dead limbs, and with such violence as to be heard in still weather more than half a mile off; and listens to hear the insect it has alarmed." He listens rather to hear the drum of his rival, or the brief and coy response of the female; for there are no insects in these dry limbs.

On one occasion I saw downy at his drum when a female flew quickly through the tree and alighted a few yards beyond him. He paused instantly, and kept his place apparently without moving a muscle. The female, I took it, had answered his advertisement. She flitted about from limb to limb (the female may be known by the absence of the crimson spot on the back of the head), apparently full of business of her own, and now and then would drum in a shy, tentative manner. The male watched her a few moments, and, convinced perhaps that she meant business, struck up his liveliest tune, then listened for her response. As it came back timidly but promptly, he left his perch and sought a nearer acquaintance with the prudent female. Whether or not a match grew out of this little flirtation I cannot say.

The downy woodpeckers are sometimes accused of injuring the apple and other fruit trees, but the depredator is probably the larger and rarer yellow-bellied species. One autumn I caught one of these fellows in the act of sinking long rows of his little wells in the limb of an apple-tree. There were series of rings of them, one above another, quite around the stem, some of them the third of an inch across. They are evidently made to get at the tender, juicy bark, or cambium layer, next to the hard wood of the tree. The health and vitality of the branch are so seriously impaired by them that it often dies.

In the following winter the same bird (probably) tapped a maple-tree in front of my window in fiftysix places; and when the day was sunny, and the sap oozed out, he spent most of his time there. He knew the good sap-days, and was on hand promptly for his tipple; cold and cloudy days he did not appear. He knew which side of the tree to tap, too, and avoided the sunless northern exposure. When one series of well-holes failed to supply him, he would sink another, drilling through the bark with great ease and quickness. Then when the day was warm, and the sap ran freely, he would have a regular sugar-maple debauch, sitting there by his wells hour after hour, and as fast as they became filled sipping out the sap. This he did in a gentle, caressing manner that was very

suggestive. He made a row of wells near the foot of the tree, and other rows higher up, and he would hop up and down the trunk as these became filled. He would hop down the tree backward with the utmost ease, throwing his tail outward and his head inward at each hop. When the wells would freeze up or his thirst become slaked, he would ruffle his feathers, draw himself together, and sit and doze in the sun on the side of the tree. He passed the night in a hole in an apple-tree not far off. He was evidently a young bird, not yet having the plumage of the mature male or female, and yet he knew which tree to tap and where to tap it. I saw where he had bored several maples in the vicinity, but no oaks or chestnuts. I nailed up a fat bone near his sap-works: the downy woodpecker came there several times a day to dine; the nuthatch came, and even the snowbird took a taste occasionally; but this sapsucker never touched it; the sweet of the tree sufficed for him. This woodpecker does not breed or abound in my vicinity; only stray specimens are now and then to be met with in the colder months. As spring approached, the one I refer to took his departure.

I must bring my account of my neighbor in the tree down to the latest date; so after the lapse of a year I add the following notes. The last day of February was bright and spring-like. I heard the first sparrow sing that morning and the first scream

ing of the circling hawks, and about seven o'clock the first drumming of my little friend. His first notes were uncertain and at long intervals, but by and by he warmed up and beat a lively tattoo. As the season advanced he ceased to lodge in his old quarters. I would rap and find nobody at home. Was he out on a lark, I said, the spring fever working in his blood? After a time his drumming grew less frequent, and finally, in the middle of April, ceased entirely. Had some accident befallen him, or had he wandered away to fresh fields, following some siren of his species? Probably the latter. Another bird that I had under observation also left his winter-quarters in the spring. This, then, appears to be the usual custom. The wrens and the nuthatches and chickadees succeed to these abandoned cavities, and often have amusing disputes over them. The nuthatches frequently pass the night in them, and the wrens and chickadees nest in them. I have further observed that in excavating a cavity for a nest the downy woodpecker makes the entrance smaller than when he is excavating his winter-quarters. This is doubtless for the greater safety of the young birds.

The next fall the downy excavated another limb in the old apple-tree, but had not got his retreat quite finished when the large hairy woodpecker appeared upon the scene. I heard his loud *eliek*, *eliek*, early one frosty November morning. There

was something impatient and angry in the tone that arrested my attention. I saw the bird fly to the tree where downy had been at work, and fall with great violence upon the entrance to his cavity. The bark and the chips fiew beneath his vigorous blows, and, before I fairly woke up to what he was doing, he had completely demolished the neat, round doorway of downy. He had made a large, ragged opening, large enough for himself to enter. I drove him away and my favorite came back, but only to survey the ruins of his castle for a moment and then go away. He lingered about for a day or two and then disappeared. The big hairy usurper passed a night in the cavity; but on being hustled out of it the next night by me, he also left, but not till he had demolished the entrance to a cavity in a neighboring tree where downy and his mate had reared their brood that summer, and where I had hoped the female would pass the winter.

VIII

A SALT BREEZE

When one first catches the smell of the sea, his lungs seem involuntarily to expand, the same as they do when he steps into the open air after long confinement indoors. On the beach he is simply emerging into a larger and more primitive out of doors. There before him is aboriginal space, and the breath of it thrills and dilates his body. He stands at the open door of the continent and eagerly drinks the large air. This breeze savors of the original element; it is a breath out of the morning of the world, — bitter, but so fresh and tonic! He has taken salt grossly and at second hand all his days; now let him inhale it at the fountainhead, and let its impalpable crystals penetrate his spirit, and prick and chafe him into new activity.

We Americans are great eaters of salt, probably the largest eaters of salt and drinkers of water of any of the civilized peoples; the amount of the former consumed annually *per capita* being more than double the amount consumed in England and on the Continent; and the quantity of water (with ice in it) we drink is in still greater proportions.

Our dry climate calls for the water, and probably our nervous, dyspeptic tendencies for the salt. Hence our need, as a people, of that great tonic and sedative, the seashore. In Biblical times, newborn babies were rubbed with salt. I suppose it stimulated them and quickened their circulation. American babies are not thus rubbed, and there comes a time with most of us when we feel that the operation cannot be put off any longer, and we rush down to the sea to have the service performed by the old nurse herself, and the pores of both mind and body well cleansed and opened.

Nothing about the sea is more impressive than its ceaseless rocking. Without either wind or tide. it would probably be restless and oscillating, because it registers and passes along the fluctuations of the earthy crust. The solid ground is only relatively solid. The scientists, under the direction of the British Association, who sought to determine the influence of the moon upon the earth's crust. found, as soon as their instruments were delicate enough to register the influence of that body, many other agencies at work. They could find no really solid spot to plant their instruments upon. Thus, over the area of a high barometer, the earth's crust bent beneath the weight of the column of air. At sea the waters are pressed down. The waves of the atmospheric ocean, as they sweep around the earth in vast alternations, cause both land and

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water to rise and fall as beneath the tread of some striding Colossus. This unequal barometric pressure over the Atlantic area would, doubtless, of itself keep its equilibrium perpetually disturbed. Thus, "the cradle endlessly rocking," of which our poet sings, is not only bestrode by the winds and swung by the punctual hand of the tides, but the fairest summer weather gives it a nudge, and the bending floor beneath it contributes an impulse. Its rocking is secured beyond peradventure. Darwin seems to think it is the cradle where the primordial life of the globe had its infancy, — a conclusion of science anticipated by an old Greek poet who said, —

"Ocean, father of gods and men."

Whether or not it rocked man, or the germ of man, into being, there can be little doubt that it will continue to rock after he and all things else are wrapped in the final sleep.

Its grandest swing, I found during a couple of weeks' sojourn upon the coast, is often upon a fair day. Local winds and storms make it spiteful and angry. They break up and scatter the waves; but some quiet morning you saunter down to the beach and find the sea beating its long roll. The waves run parallel to the shore and come in with great regularity and deliberation, falling upon it in a succession of long, low cataracts, and you realize the

force of the Homeric epithet, "the far-resounding sea." It is a sort of prostrate Niagara expiring in intermittent torrents. Often there is a marked explosion from the compression of the air in the hollow cylinder of the curling wave. These long swells are of the character of those which in the Hudson follow the passage of one of the great steamers,—large, measured, uniform. Something here has passed, probably a cyclone far at sea; and these breakers, with their epic swing, are the echo of its retreating footsteps.

Nothing is more singular and unexpected to the landsman than the combing of the waves, — a momentary perpendicular or incurving wall of water, a few yards from shore, with other water spilling or pouring over it as over a milldam, thus exhibiting for an instant a clear, perfectly formed cataract. But instantly the wall crumbles, or is crushed down, and in place of it there is a wild caldron of foaming, boiling water and sand.

There seems to be something more cosmic, or shall I say astronomic, in the sea than in the shore. Here you behold the round back of the globe: the lines are planetary. You feel that here is the true surface of the sphere, the curving, delicate sides of this huge bubble. On the land, amid the wrinkles of the hills, you have place, fixedness, locality, a nook in the chimney-corner; but upon the sea you are literally adrift; place is not, boundaries are not,

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space is vacant. You are upon the smooth disk of the planet, like a man bestriding the moon. Under your feet runs the line of the earth's rotundity, and round about you the same curve bounds your vision.

Then the sea brings us nearer that time when the earth was without form and void,—a vast, shoreless, and therefore voiceless, sea. You look upon the youth of the world; there is no age, no change, no decay here. It is older than the continents, and, in a measure, their creator. That it should devour them again, like Saturn his children, only adds to our sense of its mystery and power.

The sea is another firmament. The land is fugitive: it abides not. Vast areas have been scalped by the winds and the rains; but the sea, whose law is mutation, changes not,—type of fickleness and instability; yet the granite crumbles, and it remains the same. The semicircle that bounds your view seaward, and that travels with you along the beach, a vast, liquid crescent or half-moon, upon the inner, jagged edge of which you stand, is the type of that which changes not, which neither ends nor begins, and into which all form and all being merge.

This is a part of the vague fascination of the shore; 't is the boundary of two worlds. With your feet upon the present, you confront aboriginal

time and space. If we could reach the point in the horizon where the earth and sky meet, we might find the same fascination there. In the absence of this the best substitute is the beach.

We seem to breathe a larger air on the coast. It is the place for large types, large thoughts. 'T is not farms, or a township, we see now, but God's own domain. Possession, ownership, civilization, boundary lines cease, and there within reach is a clear page of terrestrial space, as unmarred and as unmarrable as if plucked from the sidereal heavens.

How inviting and adventurous the ships look, dropping behind the rim of the horizon, or gently blown along its edge, their yard-arms pointing to all quarters of the globe! Mystery, adventure, the promise of unknown lands, beckon to us from the full-rigged ships. One does not see them come or depart; they dawn upon him like his own thoughts, some dim and shadowy, just hovering on the verge of consciousness, others white and full, a solace to the eye. But presently, while you ponder, they are gone, or else vaguely notch the horizon-line. Illusion, enchantment, hover over the sail-ships. They have the charm of the ancient world of fable and romance. They are blown by Homeric winds. They are a survival from the remotest times. But vonder comes a black steamship, cutting across this enchanted circle in defiance of wind and tide; this

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is the modern world snubbing and dispelling our illusions, and putting our poets to flight.

But the veritable oceanic brine there before one, the continental, primordial, original liquid, the hoary, eternal sea itself, - what can a lover of fields and woods make of it? None of the charms or solacements of birds and flowers here, or of rural sights and sounds; no repose, no plaintiveness, no dumb companionship; but a spirit threatening, hungering, remorseless, decoying, fascinating, serpentine, rebelling and forever rebelling against the fiat, "Thus far shalt thou come, and no farther." The voice of the sea is unlike any other sound in nature; more riant and chafing than any roar of woods or storms. One never ceases to hear the briny, rimy, weltering quality, - it is salt to the ear no less than to the smell. One fancies he hears the friction and clashing of the invisible crystals. A shooting avalanche of snow might have this frosty, beaded, anfractuous sound. The sands and pebbles and broken shells have something to do with it; but without these that threatening, serrated edge remains, - the grainy, saline voice of the sea.

'T is a pity the fabulous sea-serpent is not a reality. The sea seems to imply such a monster, swimming as a leech swims, with vertical undulations, splitting the waves, or reposing across them in vast scaly coils. There is something in the sea

that fills the imagination of men with the image of these things. The sea-serpent will always be seen by somebody, because the sea itself is serpentine, -a writhing, crawling, crested, glistening saurian with the globe in its embrace. How it rises up and darts upon you! In storms, its breath blackens and blights the shore vegetation; it devours the beach and disgorges it again, and piles the shore with foam, like masses of unwashed wool. Often a hissing, sibilant sound seems to issue from under the edge of the bursting wave. Then that everrecurring rustle calls up a vision of some scaly monster uncoiling or measuring its length upon the sands. I was told of two girls, in bathing-suits, sitting upon the beach, where the waves, which were running very high, reached them with only their laced and embroidered edges; then, as if it had been getting ready for a spring, a huge wave rushed up and snatched them both into the sea, and they were drowned. In a few days the body of one was cast up, but the other was never seen Such fawning, such treachery, are in the again. waves.

The sea shifts its pillow like an uneasy sleeper. The contour of the beach is seldom two days alike; that round, smooth bolster of sand is at times very prominent. The waves stroke and caress it, and slide their delicate sea-draperies over it, as if they were indeed making their bed. When you walk

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there again it is gone, carried down under the waves, and the beach is low and naked.

Both the sight and the sound of the waves fill the mind with images. One thinks of rockets, windrows, embroideries. How they lift themselves up and grow tall as they approach the shore? They are entering shallower water, they are running aground, and they rise up like vessels.

I saw little in the waves that suggested steeds, but more that reminded of huge sheep. At timthey would come wallowing ashore precisely like a great flock or mob of woolly-headed sheep. The wave breaks far out, and then comes that rushing line of tossing, leaping woolly heads and shoulders, diminishing as it comes, and leaving the space behind it strewn with foam. Sometimes the waves look like revolving cylindrical knives, carving the coast. Then they thrust up their thin, crescentshaped edges, like reapers, reaping only shells and sand; yet one seems to hear the hiss of a great sickle, the crackle of stubble, the rustle of sheaves, and the screening of grain. Then again there is mimic thunder as the waves burst, followed by a sound like the downpouring of torrents of rain. How it shovels the sand and sifts and washes it forever! Every particle of silt goes seaward; it is the earth-pollen with which the sunken floors of the sea are deeply covered. What material for future continents, new worlds and new peoples, is

hoarded within its sunless depths! How Darwin longed to read the sealed book of the earth's history that lies buried beneath the sea! He thought it probable that the first continents were there; that the areas of elevation and of subsidence had changed places in the remote past.

Turning over the collections of sea-poetry in the libraries, it is rare enough to find a line or a stanza with the real savor of the shore in it. 'T is mostly fresh-water poetry, very pretty, often spirited and frothy, but seldom gritty, saline, and elemental. That bearded, bristling, savage quality of the sea, to which I have referred, you shall hardly find hinted at, except, perhaps, in Whitman, who is usually ignored in these anthologies. Tennyson's touches, as here and there in "Sea-Dreams," always satisfy, and one chafes that Shakespeare should have left so little on the subject.

The poets make a dead set at the vastness, power, and terror of the sea, and take their fill of these aspects of it. 'T is an easy theme, and soon wearies. We crave the verse that shall give us the taste of the salt spray upon our lips. Bryant's hymn to the sea is noble and stately, but it is only his forest hymn shifted to the shore. It touches the same chords. It has no marine quality or atmosphere. The bitterness and the sweetness of the sea, as of a celestial dragon devouring and purifying, are not in it. The poet wings his lofty flight above

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sea and shore alike. When Emerson sings of the sea, there is more savor, more tonic air, a closer and stronger hold upon the subject; but even he takes refuge in the vastness of his theme, and speaks through the imperial voice of the sea:—

"I heard, or seemed to hear, the chiding Sea Say, Pilgrim, why so late and slow to come? Am I not always here, thy summer home? Is not my voice thy music, morn and eve, My breath thy healthful climate in the heats, My touch thy antidote, my bay thy bath? Was ever building like my terraces? Was ever couch magnificent as mine?"

There are strong lines in Rossetti's "Sea Limits," but, like the others, it is a far-off idealization of the subject, and does not bring one nearer the sea.

There are occasionally good descriptive lines in Miller, as

"I crossed the hilly sea."

And again, —

"The ships, black-bellied, climb the sea."

There is something fresh and inviting in this comparison:—

"As pure as sea-washed sands."

But when the poet of the Sierras places old Neptune on the anxious bench, in this wise,—

"Behold the ocean on the beach
Kneel lowly down as if in prayer;
I hear a moan as of despair,
While far at sea do toss and reach
Some things so like white pleading hands,"

one has serious qualms.

The breakers usually suggest to the poets rearing and plunging steeds, as in Arnold:—

"Now the wild white horses play, Champ and chafe and toss in the spray;"

and Stedman's spirited poem, "Surf," makes use of the same image. Byron, in "Childe Harold," lays his hand upon the "mane" of the ocean. Whitman, recalling the shapes and sounds of the shore by moonlight, startles the imagination with this line:—

"The white arms out in the breakers tirelessly tossing."

One of our poets — Taylor, I think — has applied the epithet "chameleon" to the sea, — "the chameleon sea," — which fits well, for the sea takes on all hues and tints. To the genial Autocrat the sea is "feline" and treacherous, — something of the crouching and leaping tiger in it. The poet of "The New Day," as a foil to his love and admiration for it, calls it "the accursed sea." There is seasalt in Whitman's poetry, strongly realistic epithets and phrases, that had their birth upon the shore,

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and that perpetually recur to one as he saunters on the beach. He uses the word "rustling" and the phrase "hoarse and sibilant" to describe the sound of the waves. "The husky-voiced sea" expresses the saline quality to which I have referred:—

"Sea of stretch'd ground-swells,

Sea breathing broad and convulsive breaths,

Sea of the brine of life, and of unshovell'd yet always ready graves,

Howler and scooper of storms, capricious and dainty sea, I am integral with you; I too am of one phase and of all phases."

"Oh, madly the sea pushes upon the land, With love, with love."

Or this, written upon the beach at Ocean Grove in 1883,—

"With husky-haughty lips, O Sea!

Where day and night I wend thy surf-beat shore,

Imaging to my sense thy varied strange suggestions,

The troops of white-maned racers racing to the goal,

Thy ample smiling face, dash'd with the sparkling dimples of the sun,

Thy brooding seowl and murk — thy unloos'd hurricanes,

Thy unsubduedness, caprices, wilfulness;

Great as thou art above the rest, thy many tears — a lack from all eternity in thy content

(Naught but the greatest struggles, wrongs, defeats, could make thee greatest — no less could make thee),

Thy lonely state — something thou ever seek'st and seek'st, yet never gain'st,

Surely some right withheld — some voice, in huge monotonous rage, of freedom-lover pent,

Some vast heart, like a planet's, chain'd and chafing in those breakers,

By lengthen'd swell, and spasm, and panting breath,
And rhythmic rasping of thy sands and waves,
And serpent hiss, and savage peals of laughter,
And undertones of distant lion roar
(Sounding, appealing to the sky's deaf ear—but now,

(Sounding, appealing to the sky's deaf ear—but now, rapport for once,

A phantom in the night thy confidant for once), The first and last confession of the globe, Outsurging, muttering from thy soul's abysms, The tale of cosmic elemental passion, Thou tellest to a kindred soul."

Whitman is essentially of the shore; his bearded, aboriginal quality, — something in his words that smites and chafes, a tonic like salt air, not sweet, but dilating; his irregular, flowing, repeating, elliptical lines; his sense of space, and constant reference to the earth and the orbs as standards and symbols. His poems are rarely architectural or sculpturesque, either to the eye or to the mind; no carving and shaping merely for art's sake; but floating, drifting, surging masses of concrete events and images, more or less nebular, protoplasmic, and preliminary, but always potent and alive, and full of the salt of the

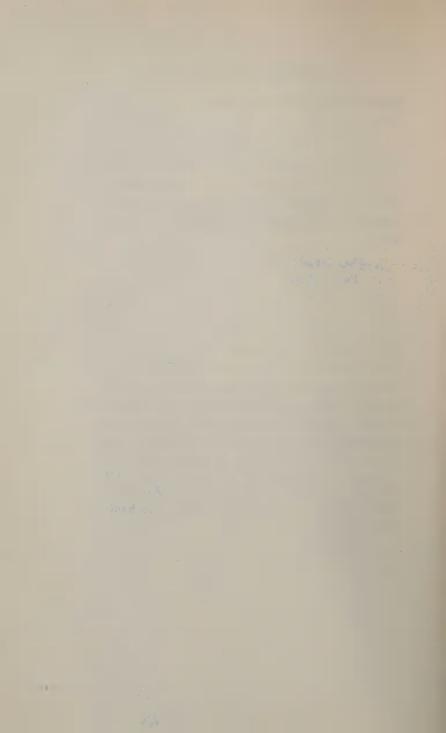
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earth, holding in solution as no other poet does his times and country.

The sea is the great purifier and equalizer of climes, the great canceler, leveler, distributer, neutralizer, and sponge of oblivion. What a cemetery, and yet what healing in its breath! What a desert, and yet what plenty in its depths! How destructive, and yet the continents are its handiwork!

"Sea, full of food, the nourisher of kinds, Purger of earth, and medicine of men."

And yet famine and thirst, dismay and death, stalk the wave. Contradictory, multitudinous sea! the despoiler and yet the renewer; barren as a rock, yet as fruitful as a field; old as Time, and young as to-day; merciless as Fate, and tender as Love; the fountain of all waters, yet mocking its victims with the most horrible thirst; smiting like a hammer, and caressing like a lady's palm; falling upon the shore like a wall of rock, then creeping up the sands as with the rustle of an infant's drapery; cesspool of the continents, yet "creating a sweet clime by its breath;" pit of terrors, gulf of despair, caldron of hell, yet health, power, beauty, enchantment, dwell forever with the sea.



IX

A SPRING RELISH

T is a little remarkable how regularly severe and I mild winters alternate in our climate for a series of years, - a feminine and a masculine one, as it were, almost invariably following each other. Every other season now for ten years the ice-gatherers on the river have been disappointed of a full harvest, and every other season the ice has formed from fifteen to twenty inches thick. From 1873 to 1884 there was no marked exception to this rule. But in the last-named year, when, according to the succession, a mild winter was due, the breed seemed to have got crossed, and a sort of mongrel winter was the result; neither mild nor severe, but very stormy, capricious, and disagreeable, with ice a foot thick on the river. The winter which followed, that of 1884-85, though slow and hesitating at first, fully proved itself as belonging to the masculine order. The present winter of 1885-86 shows a marked return to the type of two years ago, less hail and snow, but by no means the mild season that was due. By and by, probably, the meteorological influences will get back into the old ruts again,

and we shall have once more the regular alternation of mild and severe winters. During very open winters, like that of 1879-80, nature in my latitude, eighty miles north of New York, hardly shuts up house at all. That season I heard a little piping frog on the 7th of December, and on the 18th of January, in a spring run, I saw the common bullfrog out of his hibernaculum, evidently thinking it was spring. A copperhead snake was killed here about the same date; caterpillars did not seem to retire, as they usually do, but came forth every warm day. The note of the bluebird was heard nearly every week all winter, and occasionally that of the robin. Such open winters make one fear that his appetite for spring will be blunted when spring really does come; but he usually finds that the April days have the old relish. April is that part of the season that never cloys upon the palate. It does not surfeit one with good things, but provokes and stimulates the curiosity. One is on the alert, there are hints and suggestions on every hand. Something has just passed, or stirred, or called, or breathed, in the open air or in the ground about, that we would fain know more of. May is sweet, but April is pungent. There is frost enough in it to make it sharp, and heat enough in it to make it quick.

In my walks in April, I am on the lookout for watercress. It is a plant that has the pungent

April flavor. In many parts of the country the watercress seems to have become completely naturalized, and is essentially a wild plant. I found it one day in a springy place, on the top of a high, wooded mountain, far from human habitation. We gathered it and ate it with our sandwiches. Where the walker cannot find this salad, a good substitute may be had in our native spring cress, which is also in perfection in April. Crossing a wooded hill in the regions of the Catskills on the 15th of the month, I found a purple variety of the plant, on the margin of a spring that issued from beneath a ledge of rocks, just ready to bloom. I gathered the little white tubers, that are clustered like miniature potatoes at the root, and ate them, and they were a surprise and a challenge to the tongue; on the table they would well fill the place of mustard, and horseradish, and other appetizers. When I was a schoolboy, we used to gather, in a piece of woods on our way to school, the roots of the closely allied species to eat with our lunch. But we generally ate them up before lunch-time. Our name for this plant was "Crinkle-root." The botanists call it the toothwort (Dentaria), also pepper-root.

From what fact or event shall one really date the beginning of spring? The little piping frogs usually furnish a good starting-point. One spring I heard the first note on the 6th of April; the next on the 27th of February; but in reality the latter

season was only about two weeks earlier than the former. When the bees carry in their first pollen, one would think spring had come; yet this fact does not always correspond with the real stage of the season. Before there is any bloom anywhere, bees will bring pollen to the hive. Where do they get it?

I have seen them gathering it on the fresh sawdust in the woodyard, especially on that of hickory or maple. They wallow amid the dust, working it over and over, and searching it like diamondhunters, and after a time their baskets are filled with the precious flour, which is probably only a certain part of the wood, doubtless the soft, nutritious inner bark.

In fact, all signs and phases of life in the early season are very capricious, and are earlier or later just as some local or exceptional circumstance favors or hinders. It is only such birds as arrive after about the 20th of April that are at all "punctual" according to the almanac. I never have known the arrival of the barn swallow to vary much from that date in this latitude, no matter how early or late the season might be. Another punctual bird is the yellow red-poll warbler, the first of his class that appears. Year after year, between the 20th and the 25th, I am sure to see this little bird about my place for a day or two only, now on the ground, now on the fences, now on the

small trees and shrubs, and closely examining the buds or just-opening leaves of the apple-trees. He is a small olive-colored bird, with a dark-red or maroon-colored patch on the top of his head. His ordinary note is a smart "chirp." His movements are very characteristic, especially that vertical, oscillating movement of the hind part of his body, like that of the wagtails. There are many birds that do not come here till May, be the season never so early. The spring of 1878 was very forward, and on the 27th of April I made this entry in my note-book: "In nature it is the middle of May, and, judging from vegetation alone, one would expect to find many of the later birds, as the oriole, the wood thrush, the kingbird, the catbird, the tanager, the indigo-bird, the vireos, and many of the warblers, but they have not arrived. The May birds, it seems, will not come in April, no matter how the season favors."

Some birds passing north in the spring are provokingly silent. Every April I see the hermit thrush hopping about the woods, and in case of a sudden snow-storm seeking shelter about the outbuildings; but I never hear even a fragment of his wild, silvery strain. The white-crowned sparrow also passes in silence. I see the bird for a few days about the same date each year, but he will not reveal to me his song. On the other hand, his congener, the white-throated sparrow, is decid-

edly musical in passing, both spring and fall. His sweet, wavering whistle is at times quite as full and perfect as when heard in June or July in the Canadian woods. The latter bird is much more numerous than the white-crowned, and its stay with us more protracted, which may in a measure account for the greater frequency of its song. The fox sparrow, who passes earlier (sometimes in March), is also chary of the music with which he is so richly endowed. It is not every season that I hear him, though my ear is on the alert for his strong, finely modulated whistle.

Nearly all the warblers sing in passing. I hear them in the orchards, in the groves, in the woods, as they pause to feed in their northward journey, their brief, lisping, shuffling, insect-like notes requiring to be searched for by the ear, as their forms by the eye. But the ear is not tasked to identify the songs of the kinglets, as they tarry briefly with us in spring. In fact, there is generally a week in April or early May, —

"On such a time as goes before the leaf,
When all the woods stand in a mist of green
And nothing perfect,"

during which the piping, voluble, rapid, intricate, and delicious warble of the ruby-crowned kinglet is the most noticeable strain to be heard, especially among the evergreens.

I notice that during the mating season of the birds the rivalries and jealousies are not all confined to the males. Indeed, the most spiteful and furious battles, as among the domestic fowls, are frequently between females. I have seen two hen robins scratch and pull feathers in a manner that contrasted strongly with the courtly and dignified sparring usual between the males. One March a pair of bluebirds decided to set up housekeeping in the trunk of an old apple-tree near my house. Not long after, an unwedded female appeared, and probably tried to supplant the lawful wife. I did not see what arts she used, but I saw her being very roughly handled by the jealous bride. The battle continued nearly all day about the orchard and grounds, and was a battle at very close quarters. The two birds would clinch in the air or on a tree, and fall to the ground with beaks and claws locked. The male followed them about, and warbled and called, but whether deprecatingly or encouragingly, I could not tell. Occasionally, he would take a hand, but whether to separate them, or whether to fan the flames, that I could not tell. So far as I could see, he was highly amused, and culpably indifferent to the issue of the battle.

The English spring begins much earlier than ours in New England and New York, yet an exceptionally early April with us must be nearly, if not quite, abreast with April as it usually appears in

England. The black-thorn sometimes blooms in Britain in February, but the swallow does not appear till about the 20th of April, nor the anemone bloom ordinarily till that date. The nightingale comes about the same time, and the cuckoo follows close. Our cuckoo does not come till near June: but the water-thrush, which Audubon thought nearly equal to the nightingale as a songster (though it certainly is not), I have known to come by the 21st. I have seen the sweet English violet, escaped from the garden, and growing wild by the roadside, in bloom on the 25th of March, which is about its date of flowering at home. During the same season, the first of our native flowers to appear was the hepatica, which I found on April 4. The arbutus and the dicentra appeared on the 10th, and the coltsfoot — which, however, is an importation - about the same time. The bloodroot, claytonia. saxifrage, and anemone were in bloom on the 17th, and I found the first blue violet and the great spurred violet on the 19th (saw the little violetcolored butterfly dancing about the woods the same day). I plucked my first dandelion on a meadow slope on the 23d, and in the woods, protected by a high ledge, my first trillium. During the month at least twenty native shrubs and wild flowers bloomed in my vicinity, which is an unusual showing for April.

There are many things left for May, but nothing

fairer than, if as fair as, the first flower, the hepatica. I find I never have admired this little firstling half enough. When at the maturity of its charms, it is certainly the gem of the woods. What an individuality it has! No two clusters alike; all shades and sizes; some are snow-white, some pale pink, with just a tinge of violet, some deep purple, others the purest blue, others blue touched with lilac. A solitary blue-purple one, fully expanded and rising over the brown leaves or the green moss, its cluster of minute anthers showing like a group of pale stars on its little firmament, is enough to arrest and hold the dullest eye. Then, as I have elsewhere stated, there are individual hepaticas, or individual families among them, that are sweet-scented. The gift seems as capricious as the gift of genius in families. You cannot tell which the fragrant ones are till you try them. Sometimes it is the large white ones, sometimes the large purple ones, sometimes the small pink ones. The odor is faint, and recalls that of the sweet violets. A correspondent, who seems to have carefully observed these fragrant hepaticas, writes me that this gift of odor is constant in the same plant; that the plant which bears sweetscented flowers this year will bear them next.

There is a brief period in our spring when I like more than at any other time to drive along the country roads, or even to be shot along by steam and have the landscape presented to me like a

map. It is at that period, usually late in April, when we behold the first quickening of the earth. The waters have subsided, the roads have become dry, the sunshine has grown strong and its warmth has penetrated the sod; there is a stir of preparation about the farm and all through the country. One does not care to see things very closely; his interest in nature is not special but general. The earth is coming to life again. All the genial and more fertile places in the landscape are brought out; the earth is quickened in spots and streaks; you can see at a glance where man and nature have dealt the most kindly with it. The warm, moist places, the places that have had the wash of some building or of the road, or have been subjected to some special mellowing influence, how quickly the turf awakens there and shows the tender green! See what the landscape would be, how much earlier spring would come to it, if every square yard of it were alike moist and fertile. As the later snows lay in patches here and there, so now the earliest verdure is irregularly spread over the landscape, and is especially marked on certain slopes, as if it had blown over from the other side and lodged there.

A little earlier the homesteads looked cold and naked; the old farmhouse was bleak and unattractive; now Nature seems especially to smile upon it; her genial influences crowd up around it; the turf awakens all about as if in the spirit of friendliness.

See the old barn on the meadow-slope; the green seems to have oozed out from it, and to have flowed slowly down the hill; at a little distance it is lost in the sere stubble. One can see where every spring lies buried about the fields; its influence is felt at the surface, and the turf is early quickened there. Where the cattle have loved to lie and ruminate in the warm summer twilight, there the April sunshine loves to linger too, till the sod thrills to new life.

The home, the domestic feeling in nature, is brought out and enhanced at this time; what man has done tells, especially what he has done well. Our interest centres in the farmhouses, and in the influence that seems to radiate from there. The older the home, the more genial nature looks about it. The new architectural place of the rich citizen, with the barns and outbuildings concealed or disguised as much as possible, — spring is in no hurry about it; the sweat of long years of honest labor has not yet fattened the soil it stands upon.

The full charm of this April landscape is not brought out till the afternoon. It seems to need the slanting rays of the evening sun to give it the right mellowness and tenderness, or the right perspective. It is, perhaps, a little too bald in the strong, white light of the earlier part of the day; but when the faint, four-o'clock shadows begin to come out, and we look through the green vistas, and along the farm lanes toward the west, or out across

long stretches of fields above which spring seems fairly hovering, just ready to alight, and note the teams slowly plowing, the brightened mould-board gleaming in the sun now and then, - it is at such times we feel its fresh, delicate attraction the most. There is no foliage on the trees yet; only here and there the red bloom of the soft maple, illuminated by the declining sun, shows vividly against the tender green of a slope beyond, or a willow, like a thin veil, stands out against a leafless wood. Here and there a little meadow water-course is golden with marsh marigolds, or some fence border, or rocky streak of neglected pasture land, is thickly starred with the white flowers of the bloodroot. The eye can devour a succession of landscapes at such a time; there is nothing that sates or entirely fills it, but every spring token stimulates it and makes it more on the alert.

April, too, is the time to go budding. A swelling bud is food for the fancy, and often food for the eye. Some buds begin to glow as they begin to swell. The bud scales change color and become a delicate rose pink. I note this especially in the European maple. The bud scales flush as if the effort to "keep in" brought the blood into their faces. The scales of the willow do not flush, but shine like ebony, and each one presses like a hand upon the catkin that will escape from beneath it.

When spring pushes pretty hard, many buds

begin to sweat as well as to glow; they exude a brown, fragrant, gummy substance that affords the honey-bee her first cement and hive varnish. The hickory, the horse-chestnut, the plane-tree, the poplars, are all coated with this April myrrh. That of certain poplars, like the Balm of Gilead, is the most noticeable and fragrant. No spring incense more agreeable. Its perfume is often upon the April breeze. I pick up the bud scales of the poplars along the road, long brown scales like the beaks of birds, and they leave a rich gummy odor in my hand that lasts for hours. I frequently detect the same odor about my hives when the bees are making all snug against the rains, or against the millers. When used by the bees, we call it propolis. Virgil refers to it as a "glue more adhesive than bird-lime and the pitch of Phrygian Ida." Pliny says it is extracted from the tears of the elm, the willow, and the reed. The bees often have serious work to detach it from their leg-baskets, and to make it stick only where they want it to.

The bud scales begin to drop in April, and by May Day the scales have fallen from the eyes of every branch in the forest. In most cases the bud has an inner wrapping that does not fall so soon. In the hickory this inner wrapping is like a great livid membrane, an inch or more in length, thick, fleshy, and shining. It clasps the tender leaves about as if both protecting and nursing them. As

the leaves develop, these membranous wrappings curl back, and finally wither and fall. In the planetree, or sycamore, this inner wrapping of the bud is a little pelisse of soft yellow or tawny fur. When it is cast off, it is the size of one's thumbnail, and suggests the delicate skin of some goldenhaired mole. The young sycamore balls lay aside their fur wrappings early in May. The flower tassels of the European maple, too, come packed in a slightly furry covering. The long and fleshy inner scales that enfold the flowers and leaves are of a clear olive green, thinly covered with silken hairs like the young of some animals. Our sugar maple is less striking and beautiful in the bud, but the flowers are more graceful and fringe-like.

Some trees have no bud scales. The sumac presents in early spring a mere fuzzy knot, from which, by and by, there emerges a soft, furry, tawny-colored kitten's paw. I know of nothing in vegetable nature that seems so really to be born as the ferns. They emerge from the ground rolled up, with a rudimentary and "touch-me-not" look, and appear to need a maternal tongue to lick them into shape. The sun plays the wet-nurse to them, and very soon they are out of that uncanny covering in which they come swathed, and take their places with other green things.

The bud scales strew the ground in spring as the leaves do in the fall, though they are so small that

we hardly notice them. All growth, all development, is a casting off, a leaving of something behind. First the bud scales drop, then the flower drops, then the fruit drops, then the leaf drops. The first two are preparatory and stand for spring; the last two are the crown and stand for autumn. Nearly the same thing happens with the seed in the ground. First the shell, or outer husk, is dropped or cast off; then the cotyledons, those nurse leaves of the young plant; then the fruit falls, and at last the stalk and the leaf. A bud is a kind of seed planted in the branch instead of in the soil. It bursts and grows like a germ. In the absence of seeds and fruit, many birds and animals feed upon buds. The pine grosbeaks from the north are the most destructive budders that come among us. The snow beneath the maples they frequent is often covered with bud scales. The ruffed grouse sometimes buds in an orchard near the woods, and thus takes the farmer's apple crop a year in advance. Grafting is but a planting of buds. The seed is a complete, independent bud; it has the nutriment of the young plant within itself, as the egg holds several good lunches for the young chick. When the spider, or the wasp, or the carpenter bee, or the sand hornet lays an egg in a cell, and deposits food near it for the young when hatched, it does just what nature does in every kernel of corn or wheat, or bean, or nut. Around or within the chit

or germ, she stores food for the young plant. Upon this it feeds till the root takes hold of the soil and draws sustenance from thence. The bud is rooted in the branch, and draws its sustenance from the milk of the pulpy cambium layer beneath the bark.

Another pleasant feature of spring, which I have not mentioned, is the full streams. Riding across the country one bright day in March, I saw and felt, as if for the first time, what an addition to the satisfaction one has in the open air at this season are the clear, full water-courses. They come to the front, as it were, and lure and hold the eye. There are no weeds, or grasses, or foliage to hide them; they are full to the brim, and fuller; they catch and reflect the sunbeams, and are about the only objects of life and motion in nature. The trees stand so still, the fields are so hushed and naked, the mountains so exposed and rigid, that the eve falls upon the blue, sparkling, undulating watercourses with a peculiar satisfaction. By and by the grass and trees will be waving, and the streams will be shrunken and hidden, and our delight will not be in them. The still ponds and lakelets will then please us more.

The little brown brooks,—how swift and full they ran! One fancied something gleeful and hilarious in them. And the large creeks,—how steadily they rolled on, trailing their ample skirts along the edges of the fields and marshes, and leaving

ragged patches of water here and there! Many a gentle slope spread, as it were, a turfy apron in which reposed a little pool and lakelet. Many a stream sent little detachments across lots, the sparkling water seeming to trip lightly over the unbroken turf. Here and there an oak or an elm stood kneedeep in a clear pool, as if rising from its bath. It gives one a fresh, genial feeling to see such a bountiful supply of pure, running water. One's desires and affinities go out toward the full streams. How many a parched place they reach and lap in one's memory! How many a vision of naked pebbles and sun-baked banks they cover and blot out! They give eyes to the fields; they give dimples and laughter; they give light and motion. Running water! What a delightful suggestion the words always convey! One's thoughts and sympathies are set flowing by them; they unlock a fountain of pleasant fancies and associations in one's memory; the imagination is touched and refreshed.

March water is usually clean, sweet water; every brook is a trout brook, a mountain brook; the cold and the snow have supplied the condition of a high latitude; no stagnation, no corruption, comes downstream now as on a summer freshet. Winter comes down, liquid and repentant. Indeed, it is more than water that runs then: it is frost subdued; it is spring triumphant. No obsolete water-courses now. The larger creeks seek out their abandoned

beds, return to the haunts of their youth, and linger fondly there. The muskrat is adrift, but not homeless; his range is vastly extended, and he evidently rejoices in full streams. Through the tunnel of the meadow-mouse the water rushes as through a pipe; and that nest of his, that was so warm and cozy beneath the snowbank in the meadow-bottom, is sodden or afloat. But meadow-mice are not afraid of water. On various occasions I have seen them swimming about the spring pools like muskrats, and, when alarmed, diving beneath the water. Add the golden willows to the full streams, with the red-shouldered starlings perched amid their branches, sending forth their strong, liquid, gurgling notes, and the picture is complete. The willow branches appear to have taken on a deeper vellow in spring; perhaps it is the effect of the stronger sunshine, perhaps it is the effect of the swift vital water laving their roots. The epaulettes of the starlings, too, are brighter than when they left us in the fall, and they appear to get brighter daily until the nesting begins. The males arrive many days before the females, and, perched along the marshes and water-courses, send forth their liquid, musical notes, passing the call from one to the other, as if to guide and hurry their mates forward.

The noise of a brook, you may observe, is by no means in proportion to its volume. The full March streams make far less noise relatively to their size

than the shallower streams of summer, because the rocks and pebbles that cause the sound in summer are deeply buried beneath the current. "Still waters run deep" is not so true as "deep waters run still." I rode for half a day along the upper Delaware, and my thoughts almost unconsciously faced toward the full, clear river. Both the Delaware and the Susquehanna have a starved, impoverished look in summer, - unsightly stretches of naked drift and bare, bleaching rocks. But behold them in March, after the frost has turned over to them the moisture it has held back and stored up as the primitive forests used to hold the summer rains. Then they have an easy, ample, triumphant look, that is a feast to the eye. A plump, well-fed stream is as satisfying to behold as a well-fed animal or a thrifty tree. One source of charm in the English landscape is the full, placid stream the season through; no desiccated water-courses will you see there, nor any feeble, decrepit brooks, hardly able to get over the ground.

This condition of our streams and rivers in spring is evidently but a faint reminiscence of their condition during what we may call the geological springtime, the March or April of the earth's history, when the annual rainfall appears to have been vastly greater than at present, and when the water-courses were consequently vastly larger and fuller. In pleistocene days the earth's climate was

evidently much damper than at present. It was the rainiest of March weather. On no other theory can we account for the enormous erosion of the earth's surface, and the plowing of the great vallevs. Professor Newberry finds abundant evidence that the Hudson was, in former times, a much larger river than now. Professor Zittel reaches the same conclusion concerning the Nile, and Humboldt was impressed with the same fact while examining the Orinoco and the tributaries of the Amazon. All these rivers appear to be but mere fractions of their former selves. The same is true of all the great lakes. If not Noah's flood, then evidently some other very wet spell, of which this is a tradition, lies far behind us. Something like the drought of summer is beginning upon the earth; the great floods have dried up; the rivers are slowly shrinking; the water is penetrating farther and farther into the cooling crust of the earth; and what was ample to drench and cover its surface, even to make a Noah's flood, will be but a drop in the bucket to the vast interior of the cooled sphere.

SMALL river or stream flowing by one's door has many attractions over a large body of water like the Hudson. One can make a companion of it; he can walk with it and sit with it, or lounge on its banks, and feel that it is all his own. It becomes something private and special to him. You cannot have the same kind of attachment and sympathy with a great river; it does not flow through your affections like a lesser stream. The Hudson is a long arm of the sea, and it has something of the sea's austerity and grandeur. I think one might spend a lifetime upon its banks without feeling any sense of ownership in it, or becoming at all intimate with it: it keeps one at arm's length. It is a great highway of travel and of commerce; ships from all parts of our seaboard plow its waters.

But there is one thing a large river does for one that is beyond the scope of the companionable streams,—it idealizes the landscape, it multiplies and heightens the beauty of the day and of the season. A fair day it makes more fair, and a wild and tempestuous day it makes more wild and tem-

pestuous. It takes on so quickly and completely the mood and temper of the sky above. The storm is mirrored in it, and the wind chafes it into foam. The face of winter it makes doubly rigid and corpselike. How stark and still and white it lies there! But of a bright day in spring, what life and light possess it! How it enhances or emphasizes the beauty of those calm, motionless days of summer or fall, — the broad, glassy surface perfectly duplicating the opposite shore, sometimes so smooth that the finer floating matter here and there looks like dust upon a mirror; the becalmed sails standing this way and that, drifting with the tide. Indeed, nothing points a calm day like a great motionless sail; it is such a conspicuous bid for the breeze which comes not.

I have observed that when the river is roily, the fact is not noticeable on a calm day; a glassy surface is a kind of mask. But when the breeze comes and agitates it a little, its real color comes out.

"Immortal water," says Thoreau, "alive to the superficies." How sensitive and tremulous and palpitating this great river is! It is only in certain lights, on certain days, that we can see how it quivers and throbs. Sometimes you can see the subtle tremor or impulse that travels in advance of the coming steamer and prophesies of its coming. Sometimes the coming of the flood-tide is heralded in the same way. Always, when the surface is

calm enough and the light is favorable, the river seems shot through and through with tremblings and premonitions.

The river never seems so much a thing of life as in the spring when it first slips off its icy fetters. The dead comes to life before one's very eyes. The rigid, pallid river is resurrected in a twinkling. You look out of your window one moment, and there is that great, white, motionless expanse; you look again, and there in its place is the tender, dimpling, sparkling water. But if your eyes are sharp, you may have noticed the signs all the forenoon; the time was ripe, the river stirred a little in its icy shroud, put forth a little streak or filament of blue water near shore, made breathing-holes. Then, after a while, the ice was rent in places, and the edges crushed together or shoved one slightly upon the other; there was apparently something growing more and more alive and restless underneath. Then suddenly the whole mass of the ice from shore to shore begins to move downstream,very gently, almost imperceptibly at first, then with a steady, deliberate pace that soon lays bare a large expanse of bright, dancing water. The island above keeps back the northern ice, and the ebb tide makes a clean sweep from that point south for a few miles, until the return of the flood, when the ice comes back.

After the ice is once in motion, a few hours suf-

fice to break it up pretty thoroughly. Then what a wild, chaotic scene the river presents: in one part of the day the great masses hurrying downstream, crowding and jostling each other, and struggling for the right of way; in the other, all running upstream again, as if sure of escape in that direction. Thus they race up and down, the sport of the ebb and flow; but the ebb wins each time by some distance. Large fields from above, where the men were at work but a day or two since, come down; there is their pond yet clearly defined and full of marked ice; yonder is a section of their canal partly filled with the square blocks on their way to the elevators; a piece of a race-course, or a part of a road where teams crossed, comes drifting by. The people up above have written their winter pleasure and occupations upon this page, and we read the signs as the tide bears it slowly past. Some calm, bright days the scattered and diminished masses glide by like white clouds across an April sky.

At other times, when the water is black and still, the river looks like a strip of the firmament at night, dotted with stars and moons in the shape of little and big fragments of ice. One day, I remember, there came gliding into my vision a great irregular hemisphere of ice, that vividly suggested the half moon under the telescope; its white uneven surface, pitted and cracked, the jagged inner line, the outward curve, but little broken, and the blue-

black surface upon which it lay, all recalled the scenery of the midnight skies. It is only in exceptionally calm weather that the ice collects in these vast masses, leaving broad expanses of water perfectly clear. Sometimes, during such weather, it drifts by in forms that suggest the great continents, as they appear upon the map, surrounded by the oceans, all their capes and peninsulas, and isthmuses and gulfs, and inland lakes and seas, vividly reproduced.

If the opening of the river is gentle, the closing of it is sometimes attended by scenes exactly the reverse.

A cold wave one December was accompanied by a violent wind, which blew for two days and two nights. The ice formed rapidly in the river, but the wind and waves kept it from uniting and massing. On the second day the scene was indescribably wild and forbidding; the frost and fury of December were never more vividly pictured: vast crumpled, spumy ice-fields interspersed with stretches of wildly agitated water, the heaving waves thick with forming crystals, the shores piled with frozen foam and pulverized floes. After the cold wave had spent itself and the masses had become united and stationary, the scene was scarcely less wild. I fancied the plain looked more like a field of lava and scoria than like a field of ice, an eruption from some huge frost volcano of the north. Or did it

suggest that a battle had been fought there, and that this wild confusion was the ruin wrought by the contending forces?

No sooner has the river pulled his icy coverlid over him than he begins to snore in his winter sleep. It is a singular sound. Thoreau calls it a "whoop," Emerson a "cannonade," and in "Merlin" speaks of

" the gasp and moan Of the ice-imprisoned flood."

Sometimes it is a well-defined grunt, — e-h-h, e-h-h, as if some ice-god turned uneasily in his bed.

One fancies the sound is like this, when he hears it in the still winter nights seated by his fireside, or else when snugly wrapped in his own bed.

One winter the river shut up in a single night, beneath a cold wave of great severity and extent. Zero weather continued nearly a week, with a clear sky and calm, motionless air; and the effect of the brilliant sun by day and of the naked skies by night upon this vast area of new black ice, one expanding it, the other contracting, was very marked.

A cannonade indeed! As the morning advanced. out of the sunshine came peal upon peal of soft mimic thunder; occasionally becoming a regular crash, as if all the ice batteries were discharged at once. As noon approached, the sound grew to one continuous mellow roar, which lessened and became more intermittent as the day waned, until about

sundown it was nearly hushed. Then, as the chill of night came on, the conditions were reversed, and the ice began to thunder under the effects of contraction; cracks opened from shore to shore, and grew to be two or three inches broad under the shrinkage of the ice. On the morrow the expansion of the ice often found vent in one of these cracks, the two edges would first crush together, and then gradually overlap each other for two feet or more.

This expansive force of the sun upon the ice is sometimes enormous. I have seen the ice explode with a loud noise and a great commotion in the water, and a huge crack shoot like a thunderbolt from shore to shore, with its edges overlapping and shivered into fragments.

When unprotected by a covering of snow, the ice, under the expansive force of the sun, breaks regularly, every two or three miles, from shore to shore. The break appears as a slight ridge, formed by the edges of the overlapping ice.

This icy uproar is like thunder, because it seems to proceed from something in swift motion; you cannot locate it; it is everywhere and yet nowhere. There is something strange and phantom-like about it. To the eye all is still and rigid, but to the ear all is in swift motion.

This crystal cloud does not open and let the bolt leap forth, but walk upon it and you see the ice shot through and through in every direction with

shining, iridescent lines where the force passed. These lines are not cracks which come to the surface, but spiral paths through the ice, as if the force that made them went with a twist like a rifle bullet. In places several of them run together, when they make a track as broad as one's hand.

Sometimes, when I am walking upon the ice and this sound flashes by me, I fancy it is like the stroke of a gigantic skater, one who covers a mile at a stride and makes the crystal floor ring beneath him. I hear his long tapering stroke ring out just beside me, and then in a twinkling it is half a mile away.

A fall of snow, and this icy uproar is instantly hushed, the river sleeps in peace. The snow is like a coverlid, which protects the ice from the changes of temperature of the air, and brings repose to its uneasy spirit.

A dweller upon its banks, I am an interested spectator of the spring and winter harvests which its waters yield. In the stern winter nights, it is a pleasant thought that a harvest is growing down there on those desolate plains which will bring work to many needy hands by and by, and health and comfort to the great cities some months later. When the nights are coldest, the ice grows as fast as corn in July. It is a crop that usually takes two or three weeks to grow, and, if the water is very roily or brackish, even longer. Men go out from

time to time and examine it, as the farmer goes out and examines his grain or grass, to see when it will do to cut. If there comes a deep fall of snow before the ice has attained much thickness, it is "pricked," so as to let the water up through and form snow-ice. A band of fifteen or twenty men, about a vard apart, each armed with a chisel-bar and marching in line, puncture the ice at each step with a single sharp thrust. To and fro they go, leaving a belt behind them that presently becomes saturated with water. But ice, to be first quality, must grow from beneath, not from above. It is a crop quite as uncertain as any other. A good yield every two or three years, as they say of wheat out West, is about all that can be counted on. When there is an abundant harvest, after the ice-houses are filled, they stack great quantities of it, as the farmer stacks his surplus hav.

The cutting and gathering of the ice enlivens these broad, white, desolate fields amazingly. One looks down upon the busy scene as from a hill-top upon a river meadow in haying time, only here the figures stand out much more sharply than they do from a summer meadow. There is the broad, straight, blue-black canal emerging into view, and running nearly across the river; this is the highway that lays open the farm. On either side lie the fields or ice-meadows, each marked out by cedar or hemlock boughs. The farther one is cut first, and,

when cleared, shows a large, long, black parallelogram in the midst of the plain of snow. Then the next one is cut, leaving a strip or tongue of ice between the two for the horses to move and turn upon. Sometimes nearly two hundred men and boys, with numerous horses, are at work at once, marking, plowing, planing, scraping, sawing, hauling, chiseling; some floating down the pond on great square islands towed by a horse, or their fellow-workmen; others distributed along the canal, bending to their ice-hooks; others upon the bridges, separating the blocks with their chisel-bars; others feeding the elevators; while knots and straggling lines of idlers here and there look on in cold discontent, unable to get a job.

The best crop of ice is an early crop. Late in the season, or after January, the ice is apt to get "sunstruck," when it becomes "shaky," like a piece of poor timber. The sun, when he sets about destroying the ice, does not simply melt it from the surface,—that were a slow process; but he sends his shafts into it and separates it into spikes and needles,—in short, makes kindling-wood of it; so as to consume it the quicker.

One of the prettiest sights about the ice-harvesting is the elevator in operation. When all works well, there is an unbroken procession of the great crystal blocks slowly ascending this incline. They go up in couples, arm in arm, as it were, like

friends up a stairway, glowing and changing in the sun, and recalling the precious stones that adorned the walls of the celestial city. When they reach the platform where they leave the elevator, they seem to step off like things of life and volition; they are still in pairs, and separate only as they enter upon the "runs." But here they have an ordeal to pass through, for they are subjected to a rapid inspection by a man with a sharp eye in his head and a sharp ice-hook in his hand, and the black sheep are separated from the flock; every square with a trace of sediment or earth-stain in it, whose texture is not the perfect and unclouded crystal, is rejected, and sent hurling down into the abvss. Those that pass the examination glide into the building along the gentle incline, and are switched off here and there upon branch runs, and distributed to all parts of the immense interior. When the momentum becomes too great, the blocks run over a board full of nails or spikes, that scratch their bottoms and retard their progress, giving the looker-on an uncomfortable feeling.

A beautiful phenomenon may at times be witnessed on the river in the morning after a night of extreme cold. The new black ice is found to be covered with a sudden growth of frost ferns, — exquisite fern-like formations from a half inch to an inch in length, standing singly and in clusters, and under the morning sun presenting a most novel

appearance. They impede the skate, and are presently broken down and blown about by the wind.

The scenes and doings of summer are counterfeited in other particulars upon these crystal plains. Some bright, breezy day you casually glance down the river and behold a sail, — a sail like that of a pleasure yacht of summer. Is the river open again below there? is your first half-defined inquiry. But with what unwonted speed the sail is moving across the view! Before you have fairly drawn another breath it has turned, unperceived, and is shooting with equal swiftness in the opposite direction. Who ever saw such a lively sail! It does not bend before the breeze, but darts to and fro as if it moved in a vacuum, or like a shadow over a screen. Then you remember the ice-boats, and you open your eyes to the fact. Another and another come into view around the elbow, turning and flashing in the sun, and hurtling across each other's path like white-winged gulls. They turn so quickly, and dash off again at such speed, that they produce the illusion of something singularly light and intangible. In fact, an ice-boat is a sort of disembodied yacht; it is a sail on skates. The only semblance to a boat is the sail and the rudder. The platform under which the skates or runners - three in number - are rigged is broad and low; upon this the pleasure-seekers, wrapped in their furs or blankets, lie at full length, and, looking under the sail, skim

the frozen surface with their eyes. The speed attained is sometimes very great, — more than a mile per minute, and sufficient to carry them ahead of the fastest express train. When going at this rate the boat will leap like a greyhound, and thrilling stories are told of the fearful crevasses, or open places in the ice, that are cleared at a bound. And yet withal she can be brought up to the wind so suddenly as to shoot the unwary occupants off, and send them skating on their noses some yards.

Navigation on the Hudson stops about the last of November. There is usually more or less floating ice by that time, and the river may close very abruptly. Beside that, new ice an inch or two thick is the most dangerous of all; it will cut through a vessel's hull like a knife. In 1875 there was a sudden fall of the mercury the 28th of November. The hard and merciless cold came down upon the naked earth with great intensity. On the 29th the ground was a rock, and, after the sun went down, the sky all around the horizon looked like a wall of chilled iron. The river was quickly covered with great floating fields of smooth, thin ice. About three o'clock the next morning - the mercury two degrees below zero - the silence of our part of the river was suddenly broken by the alarm bell of a passing steamer; she was in the jaws of the icv legions, and was crying for help; many sleepers alongshore remembered next day that the

sound of a bell had floated across their dreams. without arousing them. One man was awakened before long by a loud pounding at his door. On opening it, a tall form, wet and icy, fell in upon him with the cry, "The Sunnyside is sunk!" The man proved to be one of her officers, and was in quest of help. He had made his way up a long hill through the darkness, his wet clothes freezing upon him, and his strength gave way the moment succor was found. Other dwellers in the vicinity were aroused, and with their boats rendered all the assistance possible. The steamer sank but a few yards from shore, only a part of her upper deck remaining above water, yet a panic among the passengers — the men behaving very badly — swamped the boats as they were being filled with the women, and a dozen or more persons were drowned.

When the river is at its wildest, usually in March, the eagles appear. They prowl about amid the ice-floes, alighting upon them or flying heavily above them in quest of fish, or a wounded duck or other game.

I have counted ten of these noble birds at one time, some seated grim and motionless upon cakes of ice, — usually surrounded by crows, — others flapping along, sharply scrutinizing the surface beneath. Where the eagles are, there the crows do congregate. The crow follows the eagle, as the jackal follows the lion, in hope of getting the leav-

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ings of the royal table. Then I suspect the crow is a real hero-worshiper. I have seen a dozen or more of them sitting in a circle about an eagle upon the ice, all with their faces turned toward him, and apparently in silent admiration of the dusky king.

The eagle seldom or never turns his back upon a storm. I think he loves to face the wildest elemental commotion. I shall long carry the picture of one I saw floating northward on a large raft of ice one day, in the face of a furious gale of snow. He stood with his talons buried in the ice, his head straight out before him, his closed wings showing their strong elbows, — a type of stern defiance and power.

This great metropolitan river, as it were, with its floating palaces, and shores lined with villas, is thus an inlet and a highway of the wild and the savage. The wild ducks and geese still follow it north in spring, and south in the fall. The loon pauses in his migrations and disports himself in its waters. Seals and otters are occasionally seen in it.

Of the Hudson it may be said that it is a very large river for its size, — that is, for the quantity of water it discharges into the sea. Its water-shed is comparatively small, — less, I think, than that of the Connecticut.

It is a huge trough with a very slight incline, through which the current moves very slowly, and which would fill from the sea were its supplies from

the mountains cut off. Its fall from Albany to the bay is only about five feet. Any object upon it, drifting with the current, progresses southward no more than eight miles in twenty-four hours. The ebb tide will carry it about twelve miles, and the flood set it back from seven to nine. A drop of water at Albany, therefore, will be nearly three weeks in reaching New York, though it will get pretty well pickled some days earlier.

Some rivers by their volume and impetuosity penetrate the sea, but here the sea is the aggressor, and sometimes meets the mountain water nearly halfway.

This fact was illustrated a few years ago, when the basin of the Hudson was visited by one of the most severe droughts ever known in this part of the State. In the early winter, after the river was frozen over above Poughkeepsie, it was discovered that immense numbers of fish were retreating upstream before the slow encroachment of the salt water. There was a general exodus of the finny tribes from the whole lower part of the river; it was like the spring and fall migration of the birds, or the fleeing of the population of a district before some approaching danger; vast swarms of catfish, white and yellow perch, and striped bass were en route for the fresh water farther north. When the people alongshore made the discovery, they turned out as they do in the rural districts when the

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pigeons appear, and, with small gillnets let down through holes in the ice, captured them in fabulous numbers. On the heels of the retreating perch and catfish came the denizens of salt water, and codfish were taken ninety miles above New York. When the February thaw came, and brought up the volume of fresh water again, the sea brine was beaten back, and the fish, what were left of them, resumed their old feeding-grounds.

It is this character of the Hudson, this encroachment of the sea upon it, that has led Professor Newberry to speak of it as a drowned river. We have heard of drowned lands, but here is a river overflowed and submerged in the same manner. It is quite certain, however, that this has not always been the character of the Hudson. Its great trough bears evidence of having been worn to its present dimensions by much swifter and stronger currents than those that course through it now. Hence Professor Newberry has advanced the bold and striking theory that in pre-glacial times this part of the continent was several hundred feet higher than at present, and that the Hudson was then a very large and rapid stream, that drew its main supplies from the basin of the Great Lakes through an ancient river-bed that followed pretty nearly the line of the present Mohawk; in other words, that the waters of the St. Lawrence once found an outlet through this channel, debouching into the ocean

from a broad, littoral plain, at a point eighty miles southeast of New York, where the sea now rolls five hundred feet deep. According to the soundings of the coast survey, this ancient bed of the Hudson is distinctly marked upon the ocean floor to the point indicated.

To the gradual subsidence of this part of the continent, in connection with the great changes wrought by the huge glacier that crept down from the north during what is called the ice period, is owing the character and aspects of the Hudson as we see and know them. The Mohawk valley was filled up by the drift, and the pent-up waters of the Great Lakes found an opening through what is now the St. Lawrence. The trough of the Hudson was also partially filled, and has remained so to the present day. There is, perhaps, no point in the river where the mud and clay are not from two to three times as deep as the water.

That ancient and grander Hudson lies back of us several hundred thousand years, — perhaps more, for a million years are but as one tick of the time-piece of the Lord; yet even it was a juvenile compared with some of the rocks and mountains the Hudson of to-day mirrors. The Highlands date from the earliest geological age, — the primary; the river — the old river — from the latest, the tertiary; and what that difference means in terrestrial years hath not entered into the mind of man to

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conceive. Yet how the venerable mountains open their ranks for the stripling to pass through. Of course the river did not force its way through this barrier, but has doubtless found an opening there of which it has availed itself, and which it has enlarged.

In thinking of these things, one only has to allow time enough, and the most stupendous changes in the topography of the country are as easy and natural as the going out or the coming in of spring or summer. According to the authority above referred to, that part of our coast that flanks the mouth of the Hudson is still sinking at the rate of a few inches per century, so that in the twinkling of a hundred thousand years or so the sea will completely submerge the city of New York, the top of Trinity Church steeple alone standing above the flood. We who 'ive so far inland, and sigh for the salt water, need only to have a little patience, and we shall wake up some fine morning and find the surf beating upon our doorsteps.

XI

BIRD ENEMIES

TOW surely the birds know their enemies! See how the wrens and robins and bluebirds pursue and scold the cat, while they take little or no notice of the dog! Even the swallow will fight the cat, and, relying too confidently upon its powers of flight, sometimes swoops down so near to its enemy that it is caught by a sudden stroke of the cat's paw. The only case I know of in which our small birds fail to recognize their enemy is furnished by the shrike apparently the little birds do not know that this modest-colored bird is an assassin. At least I have never seen them scold or molest him, or utter any outcries at his presence, as they usually do at birds of prey. Probably it is because the shrike is a rare visitant, and is not found in this part of the country during the nesting season of our songsters.

But the birds have nearly all found out the trick of the jay, and, when he comes sneaking through the trees in May and June in quest of eggs, he is quickly exposed and roundly abused. It is amusing to see the robins hustle him out of the tree

which holds their nest. They cry, "Thief, thief!" at the top of their voices as they charge upon him and the jay retorts in a voice scarcely less complimentary as he makes off.

The jays have their enemies also, and need to keep an eye on their own eggs. It would be interesting to know if jays ever rob jays, or crows plunder crows; or is there honor among thieves even in the feathered tribes? I suspect the jay is often punished by birds which are otherwise innocent of nest-robbing. One season I found a jay's nest in a small cedar on the side of a wooded ridge. It held five eggs, every one of which had been punctured. Apparently some bird had driven its sharp beak through their shells, with the sole intention of destroying them, for no part of the contents of the eggs had been removed. It looked like a case of revenge; as if some thrush or warbler, whose nest had suffered at the hands of the jays, had watched its opportunity, and had in this way retaliated upon its enemies. An egg for an egg. The jays were lingering near, very demure and silent, and probably ready to join a crusade against nest-robbers.

The great bugaboo of the birds is the owl. The owl snatches them from off their roosts at night, and gobbles up their eggs and young in their nests. He is a veritable ogre to them, and his presence fills them with consternation and alarm.

One season, to protect my early cherries, I placed

a large stuffed owl amid the branches of the tree. Such a racket as there instantly began about my grounds is not pleasant to think upon! The orioles and robins fairly "shrieked out their affright." The news instantly spread in every direction, and apparently every bird in town came to see that owl in the cherry-tree, and every bird took a cherry, so that I lost more fruit than if I had left the owl indoors. With craning necks and horrified looks the birds alighted upon the branches, and between their screams would snatch off a cherry, as if the act was some relief to their outraged feelings.

The chirp and chatter of the young of birds which build in concealed or inclosed places, like the woodpeckers, the house wren, the high-hole, the oriole, is in marked contrast to the silence of the fledgelings of most birds that build open and exposed nests. The young of the sparrows, - unless the social sparrow be an exception, - warblers, flycatchers, thrushes, never allow a sound to escape them and, on the alarm note of their parents being heard, sit especially close and motionless, while the young of chimney swallows, woodpeckers, and orioles are very noisy. The latter, in their deep pouch, are quite safe from birds of prey, except perhaps from the owl. The owl, I suspect, thrusts its leg into the cavities of woodpeckers and into the pocket-like nest of the oriole, and clutches and brings forth the birds in its talons. In one

case which I heard of, a screech owl had thrust its claw into a cavity in a tree, and grasped the head of a red-headed woodpecker; being apparently unable to draw its prey forth, it had thrust its own round head into the hole, and in some way became fixed there, and had thus died with the woodpecker in its talons.

The life of birds is beset with dangers and mishaps of which we know little. One day, in my walk, I came upon a goldfinch with the tip of one wing securely fastened to the feathers of its rump by what appeared to be the silk of some caterpillar. The bird, though uninjured, was completely crippled, and could not fly a stroke. Its little body was hot and panting in my hands, as I carefully broke the fetter. Then it darted swiftly away with a happy cry. A record of all the accidents and tragedies of bird life for a single season would show many curious incidents. A friend of mine opened his box stove one fall to kindle a fire in it, when he beheld in the black interior the desiccated forms of two bluebirds. The birds had probably taken refuge in the chimney during some cold spring storm, and had come down the pipe to the stove, from whence they were unable to ascend. A peculiarly touching fittle incident of bird life occurred to a caged female canary. Though unmated, she laid some eggs, and the happy bird was so carried away by her feelings that she would offer food to the eggs, and chatter

and twitter, trying, as it seemed, to encourage them to eat! The incident is hardly tragic, neither is it comic.

Certain birds nest in the vicinity of our houses and outbuildings, or even in and upon them, for protection from their enemies, but they often thus expose themselves to a plague of the most deadly character.

I refer to the vermin with which their nests often swarm, and which kill the young before they are fledged. In a state of nature this probably never happens; at least I never have seen or heard of it happening to nests placed in trees or under rocks. It is the curse of civilization falling upon the birds which come too near man. The vermin, or the germ of the vermin, is probably conveyed to the nest in hen's feathers, or in straws and hairs picked up about the barn or hen-house. A robin's nest upon your porch or in your summer-house will occasionally become an intolerable nuisance from the swarms upon swarms of minute vermin with which it is filled. The parent birds stem the tide as long as they can, but are often compelled to leave the young to their terrible fate.

One season a phoebe-bird built on a projecting stone under the eaves of the house, and all appeared to go well till the young were nearly fledged, when the nest suddenly became a bit of purgatory. The birds kept their places in their burning bed till they

could hold out no longer, when they leaped forth and fell dead upon the ground.

After a delay of a week or more, during which I imagine the parent birds purified themselves by every means known to them, the couple built another nest a few yards from the first, and proceeded to rear a second brood; but the new nest developed into the same bed of torment that the first did, and the three young birds, nearly ready to fly, perished as they sat within it. The parent birds then left the place as if it had been accursed.

I imagine the smaller birds have an enemy in our native white-footed mouse, though I have not proof enough to convict him. But one season the nest of a chickadee which I was observing was broken up in a position where nothing but a mouse could have reached it. The bird had chosen a cavity in the limb of an apple-tree which stood but a few yards from the house. The cavity was deep, and the entrance to it, which was ten feet from the ground, was small. Barely light enough was admitted, when the sun was in the most favorable position, to enable one to make out the number of eggs, which was six, at the bottom of the dim interior. While one was peering in and trying to get his head out of his own light, the bird would startle him by a queer kind of puffing sound. She would not leave her nest like most birds, but really tried to blow, or scare, the intruder away; and

after repeated experiments I could hardly refrain from jerking my head back when that little explosion of sound came up from the dark interior. One night, when incubation was about half finished, the nest was harried. A slight trace of hair or fur at the entrance led me to infer that some small animal was the robber. A weasel might have done it, as they sometimes climb trees, but I doubt if either a squirrel or a rat could have passed the entrance.

Probably few persons have ever suspected the catbird of being an egg-sucker; I do not know that she has ever been accused of such a thing, but there is something uncanny and disagreeable about her, which I at once understood when I one day caught her in the very act of going through a nest of eggs.

A pair of the least flycatchers, the bird which says chebec, chebec, and is a small edition of the pewee, one season built their nest where I had them for many hours each day under my observation. The nest was a very snug and compact structure placed in the forks of a small maple about twelve feet from the ground. The season before, a red squirrel had harried the nest of a wood thrush in this same tree, and I was apprehensive that he would serve the flycatchers the same trick; so, as I sat with my book in a summer-house near by, I kept my loaded gun within easy reach. One egg was laid, and the next morning, as I made my daily

inspection of the nest, only a fragment of its empty shell was to be found. This I removed, mentally imprecating the rogue of a red squirrel. The birds were much disturbed by the event, but did not desert the nest, as I had feared they would, but after much inspection of it, and many consultations together, concluded, it seems, to try again. Two more eggs were laid, when one day I heard the birds utter a sharp cry, and on looking up I saw a catbird perched upon the rim of the nest, hastily devouring the eggs. I soon regretted my precipitation in killing her, because such interference is generally unwise. It turned out that she had a nest of her own with five eggs, in a spruce-tree near my window.

Then this pair of little flycatchers did what I had never seen birds do before: they pulled the nest to pieces and rebuilt it in a peach-tree not many rods away, where a brood was successfully reared. The nest was here exposed to the direct rays of the noonday sun, and, to shield her young when the heat was greatest, the mother bird would stand above them with wings slightly spread, as other birds have been known to do under like circumstances.

To what extent the catbird is a nest-robber I have no evidence; but that feline mew of hers, and that flirting, flexible tail, suggest something not entirely bird-like.

Probably the darkest tragedy of the nest is enacted when a snake plunders it. All birds and animals, so far as I have observed, behave in a peculiar manner toward a snake. They seem to feel something of the same loathing toward it that the human species experience. The bark of a dog when he encounters a snake is different from that which he gives out on any other occasion; it is a note of mingled alarm, inquiry, and disgust.

One day a tragedy was enacted a few yards from where I was sitting with a book: two song sparrows were trying to defend their nest against a black snake. The curious, interrogating note of a chicken who had suddenly come upon the scene in his walk first caused me to look up from my reading. There were the sparrows, with wings raised in a way peculiarly expressive of horror and dismay, rushing about a low clump of grass and bushes. Then, looking more closely, I saw the glistening form of the black snake, and the quick movement of his head as he tried to seize the birds. The sparrows darted about and through the grass and weeds, trying to beat the snake off. Their tails and wings were spread, and, panting with the heat and the desperate struggle, they presented a most singular spectacle. They uttered no cry, not a sound escaped them; they were plainly speechless with horror and dismay. Not once did they drop their wings, and the peculiar expression of those uplifted

palms, as it were, I shall never forget. It occurred to me that perhaps here was a case of attempted bird-charming on the part of the snake, so I looked on from behind the fence. The birds charged the snake and harassed him from every side, but were evidently under no spell save that of courage in defending their nest. Every moment or two I could see the head and neck of the serpent make a sweep at the birds, when the one struck at would fall back, and the other would renew the assault from the rear. There appeared to be little danger that the snake could strike and hold one of the birds, though I trembled for them, they were so bold and approached so near to the snake's head. Time and again he sprang at them, but without success. How the poor things panted, and held up their wings appealingly! Then the snake glided off to the near fence, barely escaping the stone which I hurled at him. I found the nest rifled and deranged; whether it had contained eggs or young, I know not. The male sparrow had cheered me many a day with his song, and I blamed myself for not having rushed at once to the rescue, when the arch enemy was upon him. There is probably little truth in the popular notion that snakes charm birds. The black snake is the most subtle, alert, and devilish of our snakes, and I have never seen him have any but young, helpless birds in his mouth.

We have one parasitical bird, the cowbird, so

cattled because it walks about amid the grazing cattle and seizes the insects which their heavy tread sets going, which is an enemy of most of the smaller birds. It drops its egg in the nest of the song sparrow, the social sparrow, the snowbird, the vireo, and the wood-warbler, and as a rule it is the only egg in the nest that issues successfully. Either the eggs of the rightful owner of the nest are not hatched, or else the young are overridden and overreached by the parasite, and perish prematurely.

Among the worst enemies of our birds are the so-called "collectors," men who plunder nests and murder their owners in the name of science. Not the genuine ornithologist, for no one is more careful of squandering bird life than he; but the sham ornithologist, the man whose vanity or affectation happens to take an ornithological turn. He is seized with an itching for a collection of eggs and birds because it happens to be the fashion, or because it gives him the air of a man of science. But in the majority of cases the motive is a mercenary one; the collector expects to sell these spoils of the groves and the orchards. Robbing nests and killing birds becomes a business with him. He goes about it systematically, and becomes an expert in circumventing and slaving our songsters. Every town of any considerable size is infested with one or more of these bird highwaymen, and every nest in the country round about that the wretches can lay

hands on is harried. Their professional term for a nest of eggs is a "clutch," a word that well expresses the work of their grasping, murderous fingers. They clutch and destroy in the germ the life and music of the woodlands. Certain of our natural history journals are mainly organs of communication between these human weasels. They record their exploits at nest-robbing and bird-slaying in their columns. One collector tells with gusto how he "worked his way" through an orchard, ransacking every tree and leaving, as he believed, not one nest behind him. He had better not be caught working his way through my orchard. Another gloats over the number of Connecticut warblers a rare bird - he killed in one season in Massachusetts. Another tells how a mockingbird appeared in southern New England and was hunted down by himself and friend, its eggs "clutched," and the bird killed. Who knows how much the bird-lovers of New England lost by that foul deed! The progeny of the birds would probably have returned to Connecticut to breed, and their progeny, or a part of them, the same, till in time the famous Southern songster would have become a regular visitant to New England. In the same journal still another collector describes minutely how he outwitted three hummingbirds and captured their nests and eggs, -a clutch he was very proud of. A Massachusetts bird-harrier boasts of his clutch of the eggs

of that dainty little warbler, the blue vellow-back. One season he took two sets, the next five sets, the next four sets, beside some single eggs, and the next season four sets, and says he might have found more had he had more time. One season he took, in about twenty days, three sets from one tree. I have heard of a collector who boasted of having taken one hundred sets of the eggs of the marsh wren in a single day; of another who took, in the same time, thirty nests of the yellow-breasted chat; and of still another who claimed to have taken one thousand sets of eggs of different birds in one season. A large business has grown up under the influence of this collecting craze. One dealer in eggs has those of over five hundred species. He says that his business in 1883 was twice that of 1882; in 1884 it was twice that of 1883, and so on. Collectors vie with each other in the extent and variety of their cabinets. They not only obtain eggs in sets, but aim to have a number of sets of the same bird, so as to show all possible variations. I hear of a private collection that contains twelve sets of kingbirds' eggs, eight sets of house wrens' eggs, four sets of mockingbirds' eggs, etc.; sets of eggs taken in low trees, high trees, medium trees; spotted sets, dark sets, plain sets, and light sets of the same species of bird. Many collections are made on this latter plan.

Thus are our birds hunted and cut off, and all

in the name of science; as if science had not long ago finished with these birds. She has weighed and measured and dissected and described them, and their nests and eggs, and placed them in her cabinet; and the interest of science and of humanity now demands that this wholesale nest-robbing cease. These incidents I have given above, it is true, are but drops in the bucket, but the bucket would be more than full if we could get all the facts. Where one man publishes his notes, hundreds, perhaps thousands, say nothing, but go as silently about their nest-robbing as weasels.

It is true that the student of ornithology often feels compelled to take bird life. It is not an easy matter to "name all the birds without a gun," though an opera-glass will often render identification entirely certain, and leave the songster unharmed; but, once having mastered the birds, the true ornithologist leaves his gun at home. This view of the case may not be agreeable to that desiccated mortal called the "closet naturalist," but for my own part the closet naturalist is a person with whom I have very little sympathy. He is about the most wearisome and profitless creature in existence. With his piles of skins, his cases of eggs, his laborious feather-splitting, and his outlandish nomenclature, he is not only the enemy of the birds, but the enemy of all those who would know them rightly.

Not the collectors alone are to blame for the diminishing numbers of our wild birds, but a large share of the responsibility rests upon quite a different class of persons, namely, the milliners. False taste in dress is as destructive to our feathered friends as are false aims in science. It is said that the traffic in the skins of our brighter-plumaged birds, arising from their use by the milliners, reaches to hundreds of thousands annually. I am told of one middleman who collected from the shooters in one district, in four months, seventy thousand skins. It is a barbarous taste that craves this kind of ornamentation. Think of a woman or girl of real refinement appearing upon the street with her head-gear adorned with the scalps of our songsters!

It is probably true that the number of our birds destroyed by man is but a small percentage of the number cut off by their natural enemies; but it is to be remembered that those he destroys are in addition to those thus cut off, and that it is this extra or artificial destruction that disturbs the balance of nature. The operation of natural causes keeps the birds in check, but the greed of the collectors and milliners tends to their extinction.

I can pardon a man who wishes to make a collection of eggs and birds for his own private use, if he will content himself with one or two specimens of a kind, though he will find any collection much less satisfactory and less valuable than he imagines;

but the professional nest-robber and skin-collector should be put down, either by legislation or with dogs and shotguns.

I have remarked above that there is probably very little truth in the popular notion that snakes can "charm" birds. But two of my correspondents have each furnished me with an incident from his own experience which seems to confirm the popular belief. One of them writes from Georgia as follows:—

"Some twenty-eight years ago I was in Calaveras County, California, engaged in cutting lumber. One day, in coming out of the camp or cabin, my attention was attracted to the curious action of a quail in the air, which, instead of flying low and straight ahead as usual, was some fifty feet high, flying in a circle, and uttering cries of distress. I watched the bird and saw it gradually descend, and following with my eye in a line from the bird to the ground, saw a large snake with head erect and some ten or twelve inches above the ground, and mouth wide open, and, as far as I could see, gazing intently on the quail (I was about thirty feet from the snake). The quail gradually descended, its circles growing smaller and smaller, and all the time uttering cries of distress, until its feet were within two or three inches of the mouth of the snake, when I threw a stone, and, though not hitting the snake, yet struck the ground so near as to frighten

him, and he gradually started off. The quail, however, fell to the ground, apparently lifeless. I went forward and picked it up, and found it was thoroughly overcome with fright, its little heart beating as if it would burst through the skin. After holding it in my hand a few moments it flew away. I then tried to find the snake, but could not. I am unable to say whether the snake was venomous, or belonged to the constricting family, like the black snake. I can well recollect it was large and moved off rather slow. As I had never seen anything of the kind before, it made a great impression on my mind, and, after the lapse of so long a time, the incident appears as vivid to me as though it had occurred yesterday."

It is not probable that the snake had its mouth open; its darting tongue may have given that impression.

The other incident comes to me from Vermont. "While returning from church in 1876," says the writer, "as I was crossing a bridge . . . I noticed a striped snake in the act of charming a song sparrow. They were both upon the sand beneath the bridge. The snake kept his head swaying slowly from side to side and darted his tongue out continually. The bird, not over a foot away, was facing the snake, hopping from one foot to the other, and uttering a dissatisfied little chirp. I watched them till the snake seized the bird, having

gradually drawn nearer. As he seized it, I leaped over the side of the bridge; the snake glided away, and I took up the bird, which he had dropped. It was too frightened to try to fly, and I carried it nearly a mile before it flew from my open hand."

If these observers are quite sure of what they saw, then undoubtedly snakes have the power to draw birds within their grasp. I remember that my mother once told me that while gathering wild strawberries she had on one occasion come upon a bird fluttering about the head of a snake as if held there by a spell. On her appearance, the snake lowered its head and made off, and the panting bird flew away. A neighbor of mine killed a black snake which had swallowed a full-grown red squirrel, probably captured by the same power of fascination.

XII

PHASES OF FARM LIFE

HAVE thought that a good test of civilization, perhaps one of the best, is country life. Where country life is safe and enjoyable, where many of the conveniences and appliances of the town are joined to the large freedom and large benefits of the country, a high state of civilization prevails. Is there any proper country life in Spain, in Mexico, in the South American States? Man has always dwelt in cities, but he has not always in the same sense been a dweller in the country. Rude and barbarous people build cities. Hence, paradoxical as it may seem, the city is older than the country. Truly, man made the city, and after he became sufficiently civilized, not afraid of solitude, and knew on what terms to live with nature, God promoted him to life in the country. The necessities of defense, the fear of enemies, built the first city, built Athens, Rome, Carthage, Paris. The weaker the law, the stronger the city. After Cain slew Abel he went out and built a city, and murder or the fear of murder, robbery or the fear of robbery, have built most of the cities since. Penetrate into the heart of Africa, and

you will find the people, or tribes, all living in villages or little cities. You step from the jungle or the forest into the town; there is no country. The best and most hopeful feature in any people is undoubtedly the instinct that leads them to the country and to take root there, and not that which sends them flocking to the town and its distractions.

The lighter the snow, the more it drifts; and the more frivolous the people, the more they are blown by one wind or another into towns and cities.

The only notable exception I recall to city life preceding country life is furnished by the ancient Germans, of whom Tacitus says that they had no cities or contiguous settlements. "They dwell scattered and separate, as a spring, a meadow, or a grove may chance to invite them. Their villages are laid out, not like ours [the Romans] in rows of adjoining buildings, but every one surrounds his house with a vacant space, either by way of security, or against fire, or through ignorance of the art of building."

These ancient Germans were indeed true countrymen. Little wonder that they overran the empire of the city-loving Romans, and finally sacked Rome itself. How hairy and hardy and virile they were! In the same way is the more fresh and vigorous blood of the country always making eruptions into the city. The Goths and Vandals from the woods and the farms, — what would Rome do without

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them, after all? The city rapidly uses men up; families run out, man becomes sophisticated and feeble. A fresh stream of humanity is always setting from the country into the city; a stream not so fresh flows back again into the country, a stream for the most part of jaded and pale humanity. It is arterial blood when it flows in, and venous blood when it comes back.

A nation always begins to rot first in its great cities, is indeed perhaps always rotting there, and is saved only by the antiseptic virtues of fresh supplies of country blood.

But it is not of country life in general that I am to speak, but of some phases of farm life, and of farm life in my native State.

Many of the early settlers of New York were from New England, Connecticut perhaps sending out the most. My own ancestors were from the latter State. The Connecticut emigrant usually made his first stop in our river counties, Putnam, Dutchess, or Columbia. If he failed to find his place there, he made another flight to Orange, to Delaware, or to Schoharie County, where he generally stuck. But the State early had one element introduced into its rural and farm life not found farther east, namely, the Holland Dutch. These gave features more or less picturesque to the country that are not observable in New England. The

Dutch took root at various points along the Hudson, and about Albany and in the Mohawk valley, and remnants of their rural and domestic architecture may still be seen in these sections of the State. A Dutch barn became proverbial. "As broad as a Dutch barn" was a phrase that, when applied to the person of a man or woman, left room for little more to be said. The main feature of these barns was their enormous expansion of roof. It was a comfort to look at them, they suggested such shelter and protection. The eaves were very low and the ridge-pole very high. Long rafters and short posts gave them a quaint, short-waisted, grandmotherly look. They were nearly square, and stood very broad upon the ground. Their form was doubtless suggested by the damper climate of the Old World, where the grain and hay, instead of being packed in deep solid mows, used to be spread upon poles and exposed to the currents of air under the roof. Surface and not cubic capacity is more important in these matters in Holland than in this country. Our farmers have found that, in a climate where there is so much weather as with us, the less roof you have the better. Roofs will leak, and cured hav will keep sweet in a mow of any depth and size in our dry atmosphere.

The Dutch barn was the most picturesque barn that has been built, especially when thatched with straw, as they nearly all were, and forming one side

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of an inclosure of lower roofs or sheds also covered with straw, beneath which the cattle took refuge from the winter storms. Its immense, unpainted gable, cut with holes for the swallows, was like a section of a respectable-sized hill, and its roof like its slope. Its great doors always had a hood projecting over them, and the doors themselves were divided horizontally into upper and lower halves; the upper halves very frequently being left open, through which you caught a glimpse of the mows of hay, or the twinkle of flails when the grain was being threshed.

The old Dutch farmhouses, too, were always pleasing to look upon. They were low, often made of stone, with deep window-jambs and great family fireplaces. The outside door, like that of the barn, was always divided into upper and lower halves. When the weather permitted, the upper half could stand open, giving light and air without the cold draught over the floor where the children were playing that our wide-swung doors admit. This feature of the Dutch house and barn certainly merits preservation in our modern buildings.

The large, unpainted timber barns that succeeded the first Yankee settlers' log stables were also picturesque, especially when a lean-to for the cowstable was added, and the roof carried down with a long sweep over it; or when the barn was flanked by an open shed with a hayloft above it, where the

hens cackled and hid their nests, and from the open window of which the hay was always hanging.

Then the great timbers of these barns and the Dutch barn, hewn from maple or birch or oak trees from the primitive woods, and put in place by the combined strength of all the brawny arms in the neighborhood when the barn was raised, - timbers strong enough and heavy enough for docks and quays, and that have absorbed the odors of the hav and grain until they look ripe and mellow and full of the pleasing sentiment of the great, sturdy, bountiful interior! The "big beam" has become smooth and polished from the hay that has been pitched over it, and the sweaty, sturdy forms that have crossed it. One feels that he would like a piece of furniture — a chair, or a table, or a writing-desk, a bedstead, or a wainscoting — made from these longseasoned, long-tried, richly toned timbers of the old barn. But the smart-painted, natty barn that follows the humbler structure, with its glazed windows, its ornamented ventilator and gilded weather vane, - who cares to contemplate it? The wise human eye loves modesty and humility; loves plain, simple structures; loves the unpainted barn that took no thought of itself, or the dwelling that looks inward and not outward; is offended when the farm-buildings get above their business and aspire to be something on their own account, suggesting, not cattle and crops and plain living, but the vani-

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ties of the town and the pride of dress and equipage.

Indeed, the picturesque in human affairs and occupations is always born of love and humility, as it is in art or literature; and it quickly takes to itself wings and flies away at the advent of pride, or any selfish or unworthy motive. The more directly the farm savors of the farmer, the more the fields and buildings are redolent of human care and toil, without any thought of the passer-by, the more we delight in the contemplation of it.

It is unquestionably true that farm life and farm scenes in this country are less picturesque than they were fifty or one hundred years ago. This is owing partly to the advent of machinery, which enables the farmer to do so much of his work by proxy, and hence removes him farther from the soil, and partly to the growing distaste for the occupation among our people. The old settlers - our fathers and grandfathers - loved the farm, and had no thoughts above it; but the later generations are looking to the town and its fashions, and only waiting for a chance to flee thither. Then pioneer life is always more or less picturesque; there is no room for vain and foolish thoughts; it is a hard battle, and the people have no time to think about appearances. When my grandfather and grandmother came into the country where they reared their family and passed their days, they cut a road

through the woods and brought all their worldly gear on a sled drawn by a yoke of oxen. Their neighbors helped them build a house of logs, with a roof of black-ash bark and a floor of hewn whiteash plank. A great stone chimney and fireplace - the mortar of red clay - gave light and warmth, and cooked the meat and baked the bread, when there was any to cook or to bake. Here they lived and reared their family, and found life sweet. Their unworthy descendant, yielding to the inherited love of the soil, flees the city and its artificial ways, and gets a few acres in the country, where he proposes to engage in the pursuit supposed to be free to every American citizen, — the pursuit of happiness. The humble old farmhouse is discarded, and a smart, modern country-house put up. Walks and roads are made and graveled; trees and hedges are planted; the rustic old barn is rehabilitated; and, after it is all fixed, the uneasy proprietor stands off and looks, and calculates by how much he has missed the picturesque, at which he aimed. Our new houses undoubtedly have greater comforts and conveniences than the old; and, if we could keep our pride and vanity in abevance and forget that all the world is looking on, they might have beauty also.

The man that forgets himself, he is the man we like; and the dwelling that forgets itself, in its purpose to shelter and protect its inmates and make

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them feel at home in it, is the dwelling that fills the eye. When you see one of the great cathedrals, you know that it was not pride that animated these builders, but fear and worship; but when you see the house of the rich farmer, or of the millionaire from the city, you see the pride of money and the insolence of social power.

Machinery, I say, has taken away some of the picturesque features of farm life. How much soever we may admire machinery and the faculty of mechanical invention, there is no machine like a man; and the work done directly by his hands, the things made or fashioned by them, have a virtue and a quality that cannot be imparted by machinery. The line of mowers in the meadows, with the straight swaths behind them, is more picturesque than the "Clipper" or "Buckeye" mower, with its team and driver. So are the flails of the threshers, chasing each other through the air, more pleasing to the eye and the ear than the machine, with its uproar, its choking clouds of dust, and its general hurly-burly.

Sometimes the threshing was done in the open air, upon a broad rock, or a smooth, dry plat of greensward; and it is occasionally done there yet, especially the threshing of the buckwheat crop, by a farmer who has not a good barn floor, or who cannot afford to hire the machine. The flail makes a louder thud in the fields than you would imagine;

and in the splendid October weather it is a pleasing spectacle to behold the gathering of the ruddy crop, and three or four lithe figures beating out the grain with their flails in some sheltered nook, or some grassy lane lined with cedars. When there are three flails beating together, it makes lively music; and when there are four, they follow each other so fast that it is a continuous roll of sound, and it requires a very steady stroke not to hit or get hit by the others. There is just room and time to get your blow in, and that is all. When one flail is upon the straw, another has just left it, another is halfway down, and the fourth is high and straight in the air. It is like a swiftly revolving wheel that delivers four blows at each revolution. Threshing, like mowing, goes much easier in company than when alone; yet many a farmer or laborer spends nearly all the late fall and winter days shut in the barn, pounding doggedly upon the endless sheaves of oats and rye.

When the farmers made "bees," as they did a generation or two ago much more than they do now, a picturesque element was added. There was the stone bee, the husking bee, the "raising," the "moving," etc. When the carpenters had got the timbers of the house or the barn ready, and the foundation was prepared, then the neighbors for miles about were invited to come to the "raisin'." The afternoon was the time chosen. The forenoon was

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occupied by the carpenter and the farm hands in putting the sills and "sleepers" in place ("sleepers," what a good name for those rude hewn timbers that lie under the floor in the darkness and silence!). When the hands arrived, the great beams and posts and joists and braces were carried to their place on the platform, and the first "bent," as it was called, was put together and pinned by oak pins that the boys brought. Then pike poles were distributed, the men, fifteen or twenty of them, arranged in a line abreast of the bent; the boss carpenter steadied and guided the corner post and gave the word of command, - "Take holt, boys!" "Now, set her up!" "Up with her!" "Up she goes!" When it gets shoulder high, it becomes heavy, and there is a pause. The pikes are brought into requisition; every man gets a good hold and braces himself, and waits for the words. "All together now!" shouts the captain; "Heave her up!" "He-o-he!" (heaveall, - heave), "he-o-he," at the top of his voice, every man doing his best. Slowly the great timbers go up; louder grows the word of command, till the bent is up. Then it is plumbed and staylathed, and another is put together and raised in the same way, till they are all up. Then comes the putting on the great plates, - timbers that run lengthwise of the building and match the sills below. Then, if there is time, the putting up of the rafters.

In every neighborhood there was always some

man who was especially useful at "raisin's." He was bold and strong and quick. He helped guide and superintend the work. He was the first one up on the bent, catching a pin or a brace and putting it in place. He walked the lofty and perilous plate with the great beetle in hand, put the pins in the holes, and, swinging the heavy instrument through the air, drove the pins home. He was as much at home up there as a squirrel.

Now that balloon frames are mainly used for houses, and lighter sawed timbers for barns, the old-fashioned raising is rarely witnessed.

Then the moving was an event, too. A farmer had a barn to move, or wanted to build a new house on the site of the old one, and the latter must be drawn to one side. Now this work is done with pulleys and rollers by a few men and a horse; then the building was drawn by sheer bovine strength. Every man that had a yoke of cattle in the country round about was invited to assist. The barn or house was pried up and great runners, cut in the woods, placed under it, and under the runners were placed skids. To these runners it was securely chained and pinned; then the cattle - stags, steers, and oxen, in two long lines, one at each runner were hitched fast, and, while men and boys aided with great levers, the word to go was given. Slowly the two lines of bulky cattle straightened and settled into their bows; the big chains that wrapped

the runners tightened, a dozen or more "gads" were flourished, a dozen or more lusty throats urged their teams at the top of their voices, when there was a creak or a groan as the building stirred. Then the drivers redoubled their efforts; there was a perfect Babel of discordant sounds; the oxen bent to the work, their eyes bulged, their nostrils distended; the lookers-on cheered, and away went the old house or barn as nimbly as a boy on a hand-sled. Not always, however; sometimes the chains would break, or one runner strike a rock, or bury itself in the earth. There were generally enough mishaps or delays to make it interesting.

In the section of the State of which I write, flax used to be grown, and cloth for shirts and trousers, and towels and sheets, woven from it. It was no laughing matter for the farm-boy to break in his shirt or trousers, those days. The hair shirts in which the old monks used to mortify the flesh could not have been much before them in this mortifying particular. But after the bits of shives and sticks were subdued, and the knots humbled by use and the washboard, they were good garments. If you lost your hold in a tree and your shirt caught on a knot or limb, it would save you.

But when has any one seen a crackle, or a swingling-knife, or a hetchel, or a distaff, and where can one get some tow for strings or for gun-wadding, or some swingling-tow for a bonfire? The quill-wheel,

and the spinning-wheel, and the loom are heard no more among us. The last I knew of a certain hetchel, it was nailed up behind the old sheep that did the churning; and when he was disposed to shirk or hang back and stop the machine, it was always ready to spur him up in no uncertain manner. The old loom became a hen-roost in an outbuilding; and the crackle upon which the flax was broken, — where, oh, where is it?

When the produce of the farm was taken a long distance to market, - that was an event, too; the carrying away of the butter in the fall, for instance, to the river, a journey that occupied both ways four days. Then the family marketing was done in a few groceries. Some cloth, new caps and boots for the boys, and a dress, or a shawl, or a cloak for the girls were brought back, besides news and adventure, and strange tidings of the distant world. The farmer was days in getting ready to start; food was prepared and put in a box to stand him on the journey, so as to lessen the hotel expenses, and oats were put up for the horses. The butter was loaded up overnight, and in the cold November morning, long before it was light, he was up and off. I seem to hear the wagon yet, its slow rattle over the frozen ground diminishing in the distance. On the fourth day toward night all grew expectant of his return, but it was usually dark before his wagon was heard coming down the hill, or his voice from before

the door summoning a light. When the boys got big enough, one after the other accompanied him each year, until all had made the famous journey and seen the great river and the steamboats, and the thousand and one marvels of the far-away town. When it came my turn to go, I was in a great state of excitement for a week beforehand, for fear my clothes would not be ready, or else that it would be too cold, or else that the world would come to an end before the time fixed for starting. The day previous I roamed the woods in quest of game to supply my bill of fare on the way, and was lucky enough to shoot a partridge and an owl, though the latter I did not take. Perched high on a "springboard" I made the journey, and saw more sights and wonders than I have ever seen on a journey since, or ever expect to again.

But now all this is changed. The railroad has found its way through or near every settlement, and marvels and wonders are cheap. Still, the essential charm of the farm remains and always will remain: the care of crops, and of cattle, and of orchards, bees, and fowls; the clearing and improving of the ground; the building of barns and houses; the direct contact with the soil and with the elements; the watching of the clouds and of the weather; the privacies with nature, with bird, beast, and plant; and the close acquaintance with the heart and virtue of the world. The farmer should be the true

naturalist; the book in which it is all written is open before him night and day, and how sweet and wholesome all his knowledge is!

The predominant feature of farm life in New York, as in other States, is always given by some local industry of one kind or another. In many of the high, cold counties in the eastern centre of the State, this ruling industry is hop-growing; in the western, it is grain and fruit growing; in sections along the Hudson, it is small-fruit growing, as berries, currants, grapes: in other counties, it is milk and butter; in others, quarrying flagging-stone. I recently visited a section of Ulster County, where everybody seemed getting out hoop-poles and making hoops. The only talk was of hoops, hoops! Every team that went by had a load or was going for a load of hoops. The principal fuel was hoop-shavings or discarded hoop-poles. No man had any money until he sold his hoops. When a farmer went to town to get some grain, or a pair of boots, or a dress for his wife, he took a load of hoops. People stole hoops and poached for hoops, and bought, and sold, and speculated in hoops. If there was a corner, it was in hoops; big hoops, little hoops, hoops for kegs, and firkins, and barrels, and hogsheads, and pipes; hickory hoops, birch hoops, ash hoops, chestnut hoops, hoops enough to go around the world. Another place it was shingle, shingle; everybody was shaving hemlock shingle.

In most of the eastern counties of the State. the interest and profit of the farm revolve about the cow. The dairy is the one great matter, - for milk, when milk can be shipped to the New York market, and for butter when it cannot. Great barns and stables and milking-sheds, and immense meadows and cattle on a thousand hills, are the prominent agricultural features of these sections of the country. Good grass and good water are the two indispensables to successful dairying. And the two generally go together. Where there are plenty of copious cold springs, there is no dearth of grass. When the cattle are compelled to browse upon weeds and various wild growths, the milk and butter will betray it in the flavor. Tender, juicy grass, the ruddy blossoming clover, or the fragrant, well-cured hay, make the delicious milk and the sweet butter. Then there is a charm about a natural pastoral country that belongs to no other. Go through Orange County in May and see the vivid emerald of the smooth fields and hills. It is a new experience of the beauty and effectiveness of simple grass. And this grass has rare virtues, too, and imparts a flavor to the milk and butter that has made them famous.

Along all the sources of the Delaware the land flows with milk, if not with honey. The grass is excellent, except in times of protracted drought, and then the browsings in the beech and birch

woods are a good substitute. Butter is the staple product. Every housewife is or wants to be a famous butter-maker, and Delaware County butter rivals that of Orange in market. Delaware is a high, cool grazing country. The farms lie tilted up against the sides of the mountain or lapping over the hills, striped or checked with stone walls, and presenting to the eye long stretches of pasture and meadow land, alternating with plowed fields and patches of waving grain. Few of their features are picturesque; they are bare, broad, and simple. The farmhouse gets itself a coat of white paint, and green blinds to the windows, and the barn and wagon-house a coat of red paint with white trimmings, as soon as possible. A penstock flows by the doorway, rows of tin pans sun themselves in the vard, and the great wheel of the churningmachine flanks the milk-house, or rattles behind it. The winters are severe, the snow deep. The principal fuel is still wood, - beech, birch, and maple. It is hauled off the mountain in great logs when the first November or December snows come, and cut up and piled in the wood-houses and under a shed. Here the axe still rules the winter, and it may be heard all day and every day upon the woodpile, or echoing through the frost-bound wood, the coat of the chopper hanging to a limb, and his white chips strewing the snow.

Many cattle need much hay; hence in dairy sec-

tions having is the period of "storm and stress" in the farmer's year. To get the hay in, in good condition, and before the grass gets too ripe, is a great matter. All the energies and resources of the farm are bent to this purpose. It is a thirty or forty days' war, in which the farmer and his "hands" are pitted against the heat and the rain and the legions of timothy and clover. Everything about it has the urge, the hurry, the excitement of a battle. Outside help is procured; men flock in from adjoining counties, where the ruling industry is something else and is less imperative; coopers, blacksmiths, and laborers of various kinds drop their tools, and take down their scythes and go in quest of a job in haying. Every man is expected to pitch his endeavors in a little higher key than at any other kind of work. The wages are extra, and the work must correspond. The men are in the meadow by half-past four or five in the morning, and mow an hour or two before breakfast. A good mower is proud of his skill. He does not "lop in," and his "pointing out" is perfect, and you can hardly see the ribs of his swath. He stands up to his grass and strikes level and sure. He will turn a double down through the stoutest grass, and when the hav is raked away you will not find a spear left standing. The Americans are - or were - the best mowers. A foreigner could never quite give the masterly touch. The hayfield has its code. One

man must not take another's swath unless he expects to be crowded. Each expects to take his turn leading the band. The scythe may be so whetted as to ring out a saucy challenge to the rest. It is not good manners to mow up too close to your neighbor, unless you are trying to keep out of the way of the man behind you. Many a race has been brought on by some one being a little indiscreet in this respect. Two men may mow all day together under the impression that each is trying to put the other through. The one that leads strikes out briskly, and the other, not to be outdone, follows close. Thus the blood of each is soon up; a little heat begets more heat, and it is fairly a race before long. It is a great ignominy to be moved out of your swath. Hay-gathering is clean, manly work all through. Young fellows work in having who do not do another stroke on the farm the whole year. It is a gymnasium in the meadows and under the summer sky. How full of pictures, too! - the smooth slopes dotted with cocks with lengthening shadows; the great, broad-backed, soft-cheeked loads, moving along the lanes and brushing under the trees: the unfinished stacks with forkfuls of hay being handed up its sides to the builder, and when finished the shape of a great pear, with a pole in the top for the stem. Maybe in the fall and winter the calves and yearlings will hover around it and gnaw its base until it overhangs them and

shelters them from the storm. Or the farmer will "fodder" his cows there,—one of the most picturesque scenes to be witnessed on the farm,—twenty or thirty or forty milchers filing along toward the stack in the field, or clustered about it, waiting the promised bite. In great, green flakes the hay is rolled off, and distributed about in small heaps upon the unspotted snow. After the cattle have eaten, the birds—snow buntings and red-polls—come and pick up the crumbs, the seeds of the grasses and weeds. At night the fox and the owl come for mice.

What a beautiful path the cows make through the snow to the stack or to the spring under the hill!—always more or less wayward, but broad and firm, and carved and indented by a multitude of rounded hoofs.

In fact, the cow is the true pathfinder and pathmaker. She has the leisurely, deliberate movement that insures an easy and a safe way. Follow her trail through the woods, and you have the best, if not the shortest, course. How she beats down the brush and briers and wears away even the roots of the trees! A herd of cows left to themselves fall naturally into single file, and a hundred or more hoofs are not long in smoothing and compacting almost any surface.

Indeed, all the ways and doings of cattle are pleasant to look upon, whether grazing in the pas-

ture, or browsing in the woods, or ruminating under the trees, or feeding in the stall, or reposing upon the knolls. There is virtue in the cow; she is full of goodness; a wholesome odor exhales from her; the whole landscape looks out of her soft eyes; the quality and the aroma of miles of meadow and pasture lands are in her presence and products. I had rather have the care of cattle than be the keeper of the great seal of the nation. Where the cow is, there is Arcadia; so far as her influence prevails, there is contentment, humility, and sweet, homely life.

Blessed is he whose youth was passed upon the farm, and if it was a dairy farm, his memories will be all the more fragrant. The driving of the cows to and from the pasture, every day and every season for years, - how much of summer and of nature he got into him on these journeys! What rambles and excursions did this errand furnish the excuse for! The birds and birds'-nests, the berries, the squirrels, the woodchucks, the beech woods with their treasures into which the cows loved so to wander and to browse, the fragrant wintergreens and a hundred nameless adventures, all strung upon that brief journey of half a mile to and from the remote pastures. Sometimes a cow or two will be missing when the herd is brought home at night; then to hunt them up is another adventure. My grandfather went out one night to look up an

absentee from the yard, when he heard something in the brush, and out stepped a bear into the path before him.

Every Sunday morning the cows were salted. The farm-boy would take a pail with three or four quarts of coarse salt, and, followed by the eager herd, go to the field and deposit the salt in handfuls upon smooth stones and rocks and upon clean places on the turf. If you want to know how good salt is, see a cow eat it. She gives the true saline smack. How she dwells upon it, and gnaws the sward and licks the stones where it has been deposited! The cow is the most delightful feeder among animals. It makes one's mouth water to see her eat pumpkins, and to see her at a pile of apples is distracting. How she sweeps off the delectable grass! The sound of her grazing is appetizing; the grass betrays all its sweetness and succulency in parting under her sickle.

The region of which I write abounds in sheep also. Sheep love high, cool, breezy lands. Their range is generally much above that of cattle. Their sharp noses will find picking where a cow would fare poorly indeed. Hence most farmers utilize their high, wild, and mountain lands by keeping a small flock of sheep. But they are the outlaws of the farm and are seldom within bounds. They make many lively expeditions for the farm-boy, — driving them out of mischief, hunting them up in

the mountains, or salting them on the breezy hills. Then there is the annual sheep-washing, when on a warm day in May or early June the whole herd is driven a mile or more to a suitable pool in the creek, and one by one doused and washed and rinsed in the water. We used to wash below an old gristmill, and it was a pleasing spectacle, — the mill, the dam, the overhanging rocks and trees, the round, deep pool, and the huddled and frightened sheep.

One of the features of farm life peculiar to this country, and one of the most picturesque of them all, is sugar-making in the maple woods in spring. This is the first work of the season, and to the boys is more play than work. In the Old World, and in more simple and imaginative times, how such an occupation as this would have got into literature, and how many legends and associations would have clustered around it! It is woodsy, and savors of the trees; it is an encampment among the maples. Before the bud swells, before the grass springs, before the plow is started, comes the sugar harvest. It is the sequel of the bitter frost; a saprun is the sweet good-by of winter. It denotes a certain equipoise of the season; the heat of the day fully balances the frost of the night. In New York and New England, the time of the sap hovers about the vernal equinox, beginning a week or ten days before, and continuing a week or ten days after As the days and nights get equal, the heat and cold

get equal, and the sap mounts. A day that brings the bees out of the hive will bring the sap out of the maple-tree. It is the fruit of the equal marriage of the sun and the frost. When the frost is all out of the ground, and all the snow gone from its surface. the flow stops. The thermometer must not rise above 38° or 40° by day, or sink below 24° or 25° at night, with wind in the northwest; a relaxing south wind, and the run is over for the present. Sugar weather is crisp weather. How the tin buckets glisten in the gray woods; how the robins laugh; how the nuthatches call; how lightly the thin blue smoke rises among the trees! The squirrels are out of their dens; the migrating water-fowls are streaming northward; the sheep and cattle look wistfully toward the bare fields; the tide of the season, in fact, is just beginning to rise.

Sap-letting does not seem to be an exhaustive process to the trees, as the trees of a sugar-bush appear to be as thrifty and as long-lived as other trees. They come to have a maternal, large-waisted look, from the wounds of the axe or the auger, and that is about all.

In my sugar-making days, the sap was carried to the boiling-place in pails by the aid of a neck-yoke and stored in hogsheads, and boiled or evaporated in immense kettles or caldrons set in huge stone arches; now, the hogshead goes to the trees hauled upon a sled by a team, and the sap is evaporated in

broad, shallow, sheet-iron pans, — a great saving of fuel and of labor.

Many a farmer sits up all night boiling his sap, when the run has been an extra good one, and a lonely vigil he has of it amid the silent trees and beside his wild hearth. If he has a sap-house, as is now so common, he may make himself fairly comfortable; and if a companion, he may have a good time or a glorious wake.

Maple sugar in its perfection is rarely seen, perhaps never seen, in the market. When made in large quantities and indifferently, it is dark and coarse; but when made in small quantities - that is, quickly from the first run of sap and properly treated - it has a wild delicacy of flavor that no other sweet can match. What you smell in freshly cut maple-wood, or taste in the blossom of the tree, is in it. It is then, indeed, the distilled essence of the tree. Made into syrup, it is white and clear as clover-honey; and crystallized into sugar, it is as pure as the wax. The way to attain this result is to evaporate the sap under cover in an enameled kettle; when reduced about twelve times, allow it to settle half a day or more; then clarify with milk or the white of an egg. The product is virgin syrup, or sugar worthy the table of the gods.

Perhaps the most heavy and laborious work of the farm in the section of the State of which I write is fence-building. But it is not unproductive

labor, as in the South or West, for the fence is of stone, and the capacity of the soil for grass or grain is, of course, increased by its construction. It is killing two birds with one stone: a fence is had, the best in the world, while the available area of the field is enlarged. In fact, if there are ever sermons in stones, it is when they are built into a stone wall, - turning your hindrances into helps, shielding your crops behind the obstacles to your husbandry, making the enemies of the plow stand guard over its products. This is the kind of farming worth imitating. A stone wall with a good rock bottom will stand as long as a man lasts. Its only enemy is the frost, and it works so gently that it is not till after many years that its effect is perceptible. An old farmer will walk with you through his fields and say, "This wall I built at such and such a time, or the first year I came on the farm, or when I owned such and such a span of horses," indicating a period thirty, forty, or fifty years back. "This other, we built the summer so and so worked for me," and he relates some incident, or mishap, or comical adventures that the memory calls up. Every line of fence has a history; the mark of his plow or his crowbar is upon the stones; the sweat of his early manhood put them in place; in fact, the long black line covered with lichens and in places tottering to the fall revives long-gone scenes and events in the life of the farm.

The time for fence-building is usually between seed-time and harvest, May and June; or in the fall after the crops are gathered. The work has its picturesque features, — the prying of rocks; supple forms climbing or swinging from the end of the great levers; or the blasting of the rocks with powder, the hauling of them into position with oxen or horses, or with both; the picking of the stone from the greensward; the bending, athletic forms of the wall-layers; the snug new fence creeping slowly up the hill or across the field, absorbing the windrow of loose stones; and, when the work is done, much ground reclaimed to the plow and the grass, and a strong barrier erected.

It is a common complaint that the farm and farm life are not appreciated by our people. We long for the more elegant pursuits, or the ways and fashions of the town. But the farmer has the most sane and natural occupation, and ought to find life sweeter, if less highly seasoned, than any other. He alone, strictly speaking, has a home. How can a man take root and thrive without land? He writes his history upon his field. How many ties, how many resources, he has, — his friendships with his cattle, his team, his dog, his trees, the satisfaction in his growing crops, in his improved fields; his intimacy with nature, with bird and beast, and with the quickening elemental forces; his coöperations with the clouds, the sun, the seasons, heat,

wind, rain, frost! Nothing will take the various social distempers which the city and artificial life breed out of a man like farming, like direct and loving contact with the soil. It draws out the poison. It humbles him, teaches him patience and reverence, and restores the proper tone to his system.

Cling to the farm, make much of it, put yourself into it, bestow your heart and your brain upon it, so that it shall savor of you and radiate your virtue after your day's work is done!

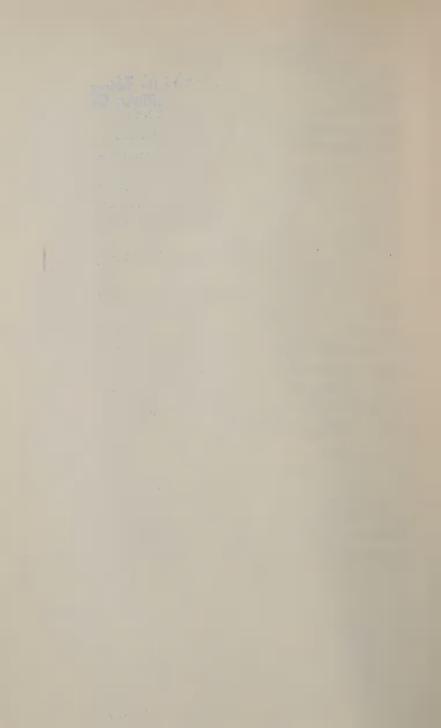
"Be thou diligent to know the state of thy flocks, and look well to thy herds.

"For riches are not forever; and doth the crown endure to every generation?

"The hay appeareth, and the tender grass showeth itself, and herbs of the mountains are gathered.

"The lambs are for thy clothing, and the goats are the price of the field.

"And thou shalt have goat's milk enough for thy food, for the food of thy household, and for the maintenance for thy maidens."



XIII

ROOF-TREE

NE of the greatest pleasures of life is to build a house for one's self. There is a peculiar satisfaction even in planting a tree from which you hope to eat the fruit, or in the shade of which you hope to repose. But how much greater the pleasure in planting the roof-tree, the tree that bears the golden apples of home and hospitality, and under the protection of which you hope to pass the remainder of your days! My grandmother said the happiest day of her life was when she found herself mistress of a little log-house in the woods. Grandfather and she had built it mainly with their own hands, and doubtless with as much eagerness and solicitude as the birds build their nests. It was made of birch and maple logs, the floor was of hewn logs, and its roof of black-ash bark. But it was home and fireside, a few square feet of the great, wild, inclement, inhospitable out of doors subdued and set about by four walls and made warm and redolent of human hearts. I notice how eager all men are in building their houses, how they linger about them, or even about their proposed sites.

When the cellar is being dug, they want to take a hand in it; the earth evidently looks a little different, a little more friendly and congenial, than other earth. When the foundation walls are up and the first floor is rudely sketched by rough timbers, I see them walking pensively from one imaginary room to another, or sitting long and long, wrapped in sweet reverie, upon the naked joist. It is a favorite pastime to go there of a Sunday afternoon and linger fondly about: they take their friends or their neighbors and climb the skeleton stairs and look out of the vacant windows, and pass in and out of the just sketched doorways. How long the house is a-finishing! The heart moves in long before the workmen move out. Will the mason and the painter and the plumber never be through?

When a new house is going up in my vicinity, I find myself walking thitherward nearly every day to see how the work progresses. What pleasure to see the structure come into shape, and the architect's paper plans take form and substance in wood and stone! I like to see every piece fitted, every nail driven. I stand about till I am in the way of the carpenters or masons. Another new roof to shelter somebody from the storms, another four walls to keep the great cosmic out of doors at bay!

Though there is pleasure in building our house, or in seeing our neighbor build, yet the old houses look the best. Disguise it as one will, the new

house is more or less a wound upon nature, and time must elapse for the wound to heal. Then, unless one builds with modesty and simplicity, and with a due regard to the fitness of things, his house will always be a wound, an object of offense upon the fair face of the landscape. Indeed, to build a house that shall not offend the wise eye, that shall not put Nature and all her gentle divinities to shame, is the great problem. In such matters, not to displease the eye is to please the heart.

Probably the most that is to be aimed at in domestic architecture is negative beauty, a condition of things which invites or suggests beauty to those who are capable of the sentiment, because a house, truly viewed, is but a setting, a background, and is not to be pushed to the front and made much of for its own sake. It is for shelter, for comfort, for health and hospitality, to eat in and sleep in, to be born in and to die in, and it is to accord in appearance with homely every-day usages, and with natural, universal objects and scenes. Indeed, is anything but negative beauty to be aimed at in the interior decorations as well? The hangings are but a background for the pictures, and are to give tone and atmosphere to the rooms; while the whole interior is but a background for the human form, and for the domestic life to be lived there.

It may be observed that what we call beauty of nature is mainly negative beauty; that is, the mass,

the huge rude background, made up of rocks, trees, hills, mountains, plains, water, has not beauty as a positive quality, visible to all eyes, but affords the mind the conditions of beauty, namely, health, strength, fitness, etc., beauty being an experience of the beholder. Some things, on the other hand, as flowers, foliage, brilliant colors, sunsets, rainbows, waterfalls, may be said to be beautiful in and of themselves; but how wearisome the world would be without the vast negative background upon which these things figure, and which provokes and stimulates the mind in a way the purely fair forms do not!

How we are drawn by that which retreats and hides itself, or gives only glimpses and half views! Hence the value of trees as a veil to an ugly ornamental house, and the admirable setting they form to the picturesque habitation I am contemplating. But the house the heart builds, whether it be cottage or villa, can stand the broad, open light without a screen of any kind. Its neutral gray or brown tints, its wide projections and deep shadows, its simple strong lines, its coarse open-air quality, its ample roof or roofs, blend it with the landscape wherever it stands. Such a house seems to retreat into itself, and invites the eye to follow. Its interior warmth and coziness penetrate the walls, and the eye gathers suggestions of them at every point.

We can miss almost anything else from a build-

ing rather than a look of repose. This it must have. Give it a look of repose, and all else shall be added. This is the supreme virtue in architecture. Go to the city, walk up and down the principal thoroughfares, and see what an effort many of the buildings make to stand up! What columns and arches they put forth where no columns or arches are needed! There is endless variety of form and line, great activity of iron and stone, when the eve demands simplicity and repose. No broad spaces, no neutral ground. The architect in his search for variety has made his façade bristle with meaningless forms. But now and then the eve is greeted by honest simplicity of structure. Look at that massive front yonder, built of granite blocks, simply one stone on top of another from the ground to the roof, with no fuss or flutter about the openings in the walls. How easy, how simple, and what a look of dignity and repose! But probably, the next time we come this way, they will have put hollow metal hoods over the windows, or otherwise marred the ease and dignity of that front.

Doubtless one main source of the pleasure we take in a brick or stone wall over one of wood is just in this element of simplicity and repose; the structure is visible; there is nothing intricate or difficult about it. It is one stone or one brick on top of another all the way up; the building makes no effort at all to stand up, but does so in the most

natural and inevitable way in the world. In a wooden building the anatomy is more or less hidden; we do not see the sources of its strength. The same is true of a stuccoed or rough-cast building; the eye sees nothing but smooth, expressionless surface.

One great objection to the Mansard roof in the country, now happily nearly gone out of date, is that it fails to give a look of repose. It fails also to give a look of protection. The roof of a building allies it to the open air, and carries the suggestion of shelter as no other part does; and to belittle it, or conceal it, or in any way to take from the honest and direct purport of it as the shield, the main matter after all, is not to be allowed. In the city we see only the fronts, the façades of the houses; there the flat and the Mansard are less offensive. But in the country the house is individualized, stands defined, and every vital and necessary part is to be boldly and strongly treated. The Mansard gives to the country house a smart, dapper appearance, and the effect of being perked up and looking about for compliments; such houses seem to be ready to make the military salute as you pass them. Whereas the steep, high roof gives the house a settled, brooding, introverted look. It also furnishes a sort of foil to the rest of the building.

What constitutes the charm to the eye of the old-fashioned country barn but its immense roof, — a

slope of gray shingle exposed to the weather like the side of a hill, and by its amplitude suggesting a bounty that warms the heart? Many of the old farmhouses, too, were modeled on the same generous scale, and at a distance little was visible but their great sloping roofs. They covered their inmates as a hen covereth her brood, and are touching pictures of the domestic spirit in its simpler forms.

What is a man's house but his nest, and why should it not be nest-like both outside and in, — coarse, strong, negative in tone externally, and snug and well-feathered and modeled by the heart within? Why should he set it on a hill, when he can command a nook under the hill or on its side? Why should it look like an observatory, when it is a conservatory and dormitory?

The domestic spirit is quiet, informal, unceremonious, loves ease, privacy, low tones; loves the chimney-corner, the old armchair, the undress garb, homely cares, children, simple pleasures; and why should it, when it seeks to house itself from the weather, aim at the formal, the showy, the architectural, the external, the superfluous? Let state edifices look stately, but the private dwelling should express privacy and coziness.

Every man's house is in some sort an effigy of himself. It is not the snails and shell-fish alone that excrete their tenements, but man as well. When you seriously build a house, you make public

proclamation of your taste and manners, or your want of these. If the domestic instinct is strong in you, and if you have humility and simplicity, they will show very plainly in your dwelling; if you have the opposite of these, false pride or a petty ambition, or coldness and exclusiveness, they will show also. A man seldom builds better than he knows, when he assumes to know anything about it.

I think that, on examination, it will be found that the main secret of the picturesqueness of more simple structures, like fences, bridges, sheds, and log-huts, is that the motive, the principle of construction, is so open and obvious. No doubt much might be done to relieve the flatness of our pinebox houses by more frankness and boldness in this respect. If the eye could see more fully the necessities of the case, - how the thing stands up and is held together, that it is not pasteboard, that it does not need to be anchored against the wind, it would be a relief. Hence the lively pleasure we feel in what are called "timber-houses," and in every architectural device by which the anatomy, the real framework, of the structure, inside or out, is allowed to show, or made to serve as ornament. The eye craves lines of strength, evidence of weight and stability. But in the wooden house, as usually treated, these lines are nearly all concealed, the ties and supports are carefully suppressed, and the eye must feed on the small, fine lines of the finish.

When the mere outlines of the frame are indicated, so that the larger spaces appear as panels, it is a great help; or let any part of the internal economy show through, and the eye is interested, as the projection of the chimney-stack in brick or stone houses, or the separating of the upper from the main floor by a belt and slight projection, or by boldly projecting the chamber floor-joist, and letting one story overlap the other.

As I have already said, herein is the main reason of the picturesqueness of the stone house above all others. Every line is a line of strength and necessity. We see how the mass stands up; how it is bound and keyed and fortified. The construction is visible; the corners are locked by header and stretcher, and are towers of strength; the openings pierce the walls and reveal their cohesion; every stone is alive with purpose, and the whole affects one as a real triumph over Nature, — so much form and proportion wrested from her grasp. There is power in stone, and in a less measure in brick; but wood must be boldly handled not to look frail or flat. Then unhewn stone has the negative beauty which is so desirable.

I say, therefore, build of stone by all means, if you have a natural taste to gratify, and the rockier your structure looks, the better. All things make friends with a stone house, — the mosses and lichens, and vines and birds. It is kindred to the earth

and the elements, and makes itself at home in any situation.

When I set out to look up a place in the country, I was chiefly intent on finding a few acres of good fruit land near a large stone-heap. While I was vet undecided about the land, the discovery of the stone-heap at a convenient distance—vast piles of square blocks of all sizes, wedged off the upright strata by the frost during uncounted ages, and all mottled and colored by the weather-made me hasten to close the bargain. The large country-seats in the neighborhood were mainly of brick or pine; only a few of the early settlers had availed themselves of this beautiful material that lay in such abundance handy to every man's back door, and in those cases the stones were nearly buried in white mortar, as if they were something to be ashamed of. Truly, the besmeared, beplastered appearance of most stone houses is by no means a part of their beauty. Mortar plays a subordinate part in a structure, and the less we see of it the better.

The proper way to treat the subject is this: as the work progresses, let the wall be got ready for pointing up, but never let the pointing be done, though your masons will be sorely grieved. Let the joints be made close, then scraped out, cut with the trowel, and, while the mortar is yet green, sprinkled with sand. Instead, then, of a white band defining every stone, you have only sharp lines

and seams here and there, which give the wall a rocky, natural appearance.

The point of union between the stones, according to my eye, should be a depression, a shadow, and not a raised joint. So that you have closeness and compactness, the face of your wall cannot be too broken or rough. When the rising or setting sun shines athwart it, and brings out the shadows, how powerful and picturesque it looks! It is not in cut or hewn stone to express such majesty. I like the sills and lintels of undressed stone also, — "wild stone," as the old backwoodsman called them, untamed by the hammer or chisel. If the lintels are wide enough, a sort of hood may be formed over the openings by projecting them a few inches.

It seems to me that I built into my house every one of those superb autumn days which I spent in the woods getting out stone. I did not quarry the limestone ledge into blocks any more than I quarried the delicious weather into memories to adorn my walls. Every load that was sent home carried my heart and happiness with it. The jewels I had uncovered in the débris, or torn from the ledge in the morning, I saw in the jambs, or mounted high on the corners at night. Every day was filled with great events. The woods held unknown treasures. Those elder giants, frost and rain, had wrought industriously; now we would unearth from the leafmould an ugly customer, a stone with a ragged

quartz face, or cavernous, and set with rock crystals like great teeth, or else suggesting a battered and worm-eaten skull of some old stone dog. These I needed a sprinkling of for their quaintness, and to make the wall a true compendium of the locality. Then we would unexpectedly strike upon several loads of beautiful blocks all in a nest; or we would assault the ledge in a new place with wedge and bar, and rattle down headers and stretchers that surpassed any before. I had to be constantly on the lookout for corner stone, for mine is a house of seven corners, and on the strength and dignity of the corners the beauty of the wall largely depends. But when you bait your hook with your heart, the fish always bite. "The boss is as good as six men in the woods, getting out stone," flatteringly spoke up the master-mason. Certain it is that no such stone was found as when I headed the search. The men saw indifferently with their eyes, but I looked upon the ground with such desire that I saw what was beneath the moss and the leaves. With them it was hard labor at so much a day, with me it was a passionate pursuit; the enthusiasm of the chase venting itself with the bar and the hammer, and the day was too short for me to tire of the sport.

The stone was exceptionally fine, both in form and color. Sometimes it seemed as if we had struck upon the ruins of some ancient structure, the blocks

were so regular and numerous. The ancient stonecutters, however, had shaped them all to a particular pattern, which was a little off the square; but in bringing them back with the modern pitchingtool the rock face was gained, which is the feature so desirable.

I like a live stone, one upon which time makes an impression, which in the open air assumes a certain tone and mellowness. The stone in my locality surpasses any I have ever seen in this respect. A warm gray is the ruling tint, and a wall built of this stone is of the color of the bole of the beechtree, mottled, lively, and full of character.

What should a house of undressed stone be trimmed out with but unpainted wood? Oak, ash, cedar, cherry, maple, — why import pine from Michigan or Maine when nearly all our woods contain plenty of these materials? And now that the planing-mills are so abundant, and really do such admirable work, an ordinary-priced house may be trimmed out mainly in hard wood for nearly the same cost as with pine.

In my case I began at the stump; I viewed the trees before they were cut, and took a hand in sawing them down and in hauling them to the mill. One bleak winter day I climbed to the top of a mountain to survey a large butternut which some hunters had told me of, and which now, one year later, I see about me in base and panel as I write.

One thus gets a lively background of interest and reminiscence in his house from the start.

The natural color and grain of the wood give a richness and simplicity to an interior that no art can make up for. How the eye loves a genuine thing; how it delights in the nude beauty of the wood! A painted surface is a blank, meaningless surface; but the texture and figure of the wood is full of expression. It is the principle of construction again appearing in another field. How endless the variety of figures that appear even in one kind of wood, and, withal, how modest! The grainers do not imitate oak. They cannot. Their surface glares; their oak is only skin-deep; their figures put nature to shame.

Oak is the wood to start with in trimming a house. How clear and strong it looks! It is the master wood. When allowed to season in the log, it has a richness and ripeness of tone that are delicious. We have many kinds, as rock oak, black oak, red oak, white oak, — all equally beautiful in their place. Red oak is the softest, and less liable to spring. By combining two different kinds, as red oak and white oak (white oak takes its name from the external color of the tree, and not from the color of the wood, which is dark amber), a most pleasing effect is produced.

Butternut is the softest and most tractable of what are called hard woods, and its hue is emi-

nently warm and mellow. Its figure is pointed and shooting, — a sort of Gothic style in the grain. It makes admirable doors. Western butternut. which can usually be had in the Albany market, makes doors as light as pine, and as little liable to spring. The Western woods are all better than the Eastern for building purposes. They are lighter, coarser, easier worked. They grow easier and thriftier. The traveler through northern Ohio and Indiana sees a wonderful crop of forest trees. tall, uniform, straight as candles, no knots, no gnarls, - all clear, clean timber. The soil is deep and moist, and the trees grow rank and rapid. The chestnut, ash, and butternut grown here work like pine, besides being darker and richer in color than the same woods grown in leaner and more rocky soils. Western black ash is especially beautiful. In connection with our almost bone-white sugar maple for panels, it makes charming doors, - just the thing for chambers, and scarcely more expensive than pine. Of our Eastern woods, red cedar is also good, with its pungent, moth-expelling odor, and should not be neglected. It soon fades, but it is very pleasing, with its hard, solid knots, even then. No doubt some wash might be applied that would preserve its color.

There is a species of birch growing upon our mountains that makes an admirable finish. It is usually called red or cherry birch, and it has a long

wave or curl that is found in no other wood. It is very tough and refractory, and must be securely fastened. A black ash door, with maple or white pine panels set in a heavy frame of this red, wavy birch, is a most pleasing chamber finish. For a hard-wood floor, in connection with oak or ash, it is to be preferred to cherry.

Growing alongside of the birch is the soft maple—the curly species—that must not be overlooked. It contains light wood and dark wood, as a fowl contains white meat and dark meat. It is not unusual to find a tree of this species, the heart of which will be a rich grayish brown, suggesting, by something in the tone and texture of it, the rares shades of silk, while the outer part is white, and fine as ivory. I have seen a wainscoting composed of alternate strips of this light and dark wood from the same tree that was exquisite, and a great rarity.

The eye soon tires of sharp, violent contrasts. In general, that which is striking or taking at first sight is to be avoided in interior finishings or decorations, especially in the main or living rooms. In halls, a more pronounced style is permissible, and the contrast of walnut with pine, or maple, or oak is more endurable. What one wants in his living rooms is a quiet, warm tone, and the main secret of this is dark furniture and hangings, with a dash of color here and there, and floods of light, — big windows, and plenty of them. No room can be

cheerful and inviting without plenty of light, and then, if the walls are light too, and the carpets showy, there is a flatness and garishness. The marble mantelpiece, with its senseless vases, and the marble-topped centre-table add the finishing touch of coldness and stiffness. Marble makes good tombstones, but it is an abomination in a house, either in furniture or in mantels.

There remains only to be added that, after you have had the experience, after the house is finished and you have had a year or two to cool off in (it takes that long), you will probably feel a slight reaction. Or it may be more than that: the scales may fall from your eyes, and you may see that it is not worth while after all to lay so much emphasis on the house, a place to shelter you from the elements, and that you have had only a different but the same unworthy pride as the rest, as if anything was not good enough, and as if manhood was not sufficient to itself without these props.

You will have found, too, that with all your pains you have not built a house, nor can you build one, that just fills the eye and gives the same æsthetic pleasure as does the plain unpainted structure that took no thought of appearances, and that has not one stroke about it foreign to the necessities of the case.

Pride, when it is conscious of itself, is death to the nobly beautiful, whether in dress, manners

equipage, or house-building. The great monumental structures of the Old World show no pride or vanity, but on the contrary great humility and singleness of purpose. The Gothic cathedral does not try to look beautiful; it is beautiful from the start, and entirely serious. London Bridge is a heroic resolution in stone, and apparently has but one purpose, and that is to carry the paved street with all its surging masses safely over the river.

Unless, therefore, you have had the rare success of building without pride, your house will offend you by and by, and offend others.

Perhaps after one had graduated in this school and built four or five houses, he would have the courage to face the problem squarely, and build, much more plainly and unpretentiously, a low, nestling structure of undressed boards, or unhammered stone, and be content, like the oyster, with the roughest of shells without, so that he be sure of the mother-of-pearl within.





